ARC 2798C

ENVIRONMENTAL PROTECTION COMMISSION[567]

Adopted and Filed

Pursuant to the authority of Iowa Code sections 459.103 and 459A.104, the Environmental Protection Commission (Commission) hereby amends Chapter 65, "Animal Feeding Operations," Iowa Administrative Code.

The purpose of the amendments to the animal feeding operation rules is to:

1. Adopt changes due to recent legislative action as follows:

2012 Iowa Acts, Senate File 2172: This legislation exempts swine farrowing and gestating operations from the definition of "qualified confinement feeding operation" and the operating requirements associated with this type of facility if the swine farrowing and gestating operations meet this definition solely because they added replacement breeding swine as defined in Iowa Code section 459.102(46).

2012 Iowa Acts, House File 2292: This legislation allows fish production facilities the option to operate as confinement feeding operations or as facilities regulated by the wastewater regulations.

2013 Iowa Acts, House File 512: This legislation allows confinement feeding operations to discontinue use of buildings, without dismantling the livestock production components of the buildings, in order to meet the definition of a small animal feeding operation (SAFO).

2015 Iowa Acts, House File 583: This legislation allows animal truck wash facilities to meet animal feeding operations regulations for design, construction and operation. It also incorporates by reference the applicable federal National Pollutant Discharge Elimination System (NPDES) permit requirements for open feedlot operations, as had previously been done in statute for confinement feeding operations.

2. Allow solids from open feedlot operations to be regulated by the Iowa Department of Agriculture and Land Stewardship (IDALS) as bulk dry animal nutrient products (Iowa Code chapter 200A).

3. Provide better clarification of requirements in rules and rescind unnecessary and outdated rules, lists and Internet addresses. The amendments will implement a portion of the five-year rules review plan that the Department of Natural Resources (Department) is carrying out to accomplish the requirements of Iowa Code section 17A.7(2).

Some of the changes designed to provide clarification of the rule requirements include: (1) a revised version of the definition of "public use area" in an effort to better define the term; (2) an updated listing of Iowa lakes (Table 2 of Chapter 65) to ensure that all the lakes are accounted for and properly protected through the facility-siting requirements; (3) clarification regarding which structures are to be used for measuring separation distances; (4) clarification of the scope of any landowner waiver of a separation distance; and (5) additional language regarding NPDES permit requirements to be consistent with the federal rule.

Notice of Intended Action was published in the Iowa Administrative Bulletin on April 13, 2016, as **ARC 2496C**. Public hearings were held on May 23, 2016, in Windsor Heights, Iowa; on May 24, 2016, in Carroll, Iowa; on May 25, 2016, in Spencer, Iowa; on May 26, 2016, in Mason City, Iowa; on May 31, 2016, in Ainsworth, Iowa; and on June 3, 2016, in Calmar, Iowa. Public comments were received and considered. A responsiveness summary has been prepared and is available at: http://www.iowadnr.gov/Environmental-Protection/Land-Quality/Animal-Feeding-Operations/AFO-Rules-Regulations.

As a result of the written and oral comments, the following change has been made to the amendments as published in the Notice of Intended Action:

The mailing address and telephone number for the owner and contact person for a confinement feeding operation will not be removed from the requirements to be submitted with a manure management plan. In Item 44 of the Notice of Intended Action, deletion of this information from the rule was proposed. In light of the comments received, the Commission decided to leave this required information in subparagraphs 65.17(1)"c"(1) and (2) and, therefore, did not adopt the proposed amendments in Item 44 of the Notice. Subsequent items have been renumbered accordingly.

After analysis and review of this rule making, the Commission has determined that most of the amendments will have no impact on private sector jobs; however, there are some changes that may

have a positive financial impact. The complete jobs impact statement is available from the Department upon request.

These amendments are intended to implement Iowa Code sections 459.102, 459.103, 459.301, 459.312A, and 459.320 and Iowa Code chapter 459A.

These amendments shall become effective on December 14, 2016.

The following amendments are adopted.

ITEM 1. Rescind rule 567—65.1(459,459B) and adopt the following **new** rule in lieu thereof:

567—65.1(459,459B) Definitions and incorporation by reference. In addition to the definitions in Iowa Code sections 455B.101, 455B.171 and 459.102 and in 567—Chapter 60, the following definitions shall apply to Division I of this chapter:

65.1(1) *Definitions.*

"Abandoned confinement feeding operation structure" means the confinement feeding operation structure has been razed, removed from the site of a confinement feeding operation, filled in with earth, or converted to uses other than a confinement feeding operation structure so that it cannot be used as a confinement feeding operation structure without significant reconstruction.

"Adjacent—air quality" means, for the purpose of determining separation distance requirements pursuant to 567—65.11(459,459B), that two or more confinement feeding operations are adjacent if they have animal feeding operation structures that are separated at their closest points by less than the following:

1. 1,250 feet for a confinement feeding operation having an animal unit capacity of less than 1,250 animal units for swine maintained as part of a farrowing and gestating operation, less than 2,700 animal units for swine maintained as part of a farrow-to-finish operation, less than 4,000 animal units for cattle maintained as part of a cattle operation, or less than 3,000 animal units for any other confinement feeding operation, or for a confinement feeding operation consisting of dry bedded confinement feeding operation structures.

2. 1,500 feet for a confinement feeding operation having an animal unit capacity of 1,250 or more but less than 2,000 animal units for swine maintained as part of a swine farrowing and gestating operation, 2,700 or more but less than 5,400 animal units for swine maintained as part of a farrow-to-finish operation, 4,000 or more but less than 6,500 animal units for cattle maintained as part of a cattle operation, or for any other confinement feeding operation having an animal unit capacity of 3,000 or more but less than 5,000 animal units.

3. 2,500 feet for a confinement feeding operation having an animal unit capacity of 2,000 or more animal units for swine maintained as part of a swine farrowing and gestating operation, 5,400 or more animal units for swine maintained as part of a farrow-to-finish operation, or 6,500 or more animal units for cattle maintained as part of a cattle operation, or for any other confinement feeding operation with 5,000 or more animal units.

4. The distances in "1" to "3" above shall only be used to determine that two or more confinement feeding operations are adjacent if at least one confinement feeding operation structure was constructed on or after March 21, 1996.

5. To determine if two or more confinement feeding operations are adjacent, for the purpose of determining the separation distance requirements, the animal unit capacity of each individual operation shall be used. If two or more confinement feeding operations do not have the same animal unit capacity, the greater animal unit capacity shall be used to determine the separation distance.

6. Dry manure that is stockpiled within a distance of 1,250 feet from another stockpile shall be considered part of the same stockpile.

"Adjacent—water quality" means, for the purpose of determining the construction permit requirements pursuant to 567—65.7(459,459B) and manure management plan requirements pursuant to 567—65.16(459,459B), that two or more confinement feeding operations are adjacent if they have confinement feeding operation structures that are separated at their closest points by less than the following:

1. 1,250 feet for confinement feeding operations having a combined animal unit capacity of less than 1,000 animal units.

2. 2,500 feet for confinement feeding operations having a combined animal unit capacity of 1,000 or more animal units.

3. The distances in "1" and "2" above shall only be used to determine that two or more confinement feeding operations are adjacent if at least one confinement feeding operation structure is constructed or expanded on or after May 21, 1998.

"Aerobic structure" means an animal feeding operation structure other than an egg washwater storage structure which relies on aerobic bacterial action which is maintained by the utilization of air or oxygen and which includes aeration equipment to digest organic matter. Aeration equipment shall be used and shall be capable of providing oxygen at a rate sufficient to maintain an average of 2 milligrams per liter dissolved oxygen concentration in the upper 30 percent of the depth of manure in the structure at all times.

"Agricultural drainage well" means a vertical opening to an aquifer or permeable substratum which is constructed by any means including but not limited to drilling, driving, digging, boring, augering, jetting, washing, or coring and which is capable of intercepting or receiving surface or subsurface drainage water from land directly or by a drainage system.

"Agricultural drainage well area" means an area of land where surface or subsurface water drains into an agricultural drainage well directly or through a drainage system connecting to the agricultural drainage well.

"Alluvial aquifer area" means an area underlaid by sand or gravel aquifers situated beneath flood plains along stream valleys and includes alluvial deposits associated with stream terraces and benches, contiguous windblown sand deposits, and glacial outwash deposits.

"Alluvial soils" means soils formed in materials deposited by moving water.

"Anaerobic lagoon" means an unformed manure storage structure if the primary function of the structure is to store and stabilize manure, the structure is designed to receive manure on a regular basis, and the structure's design waste loading rates provide that the predominant biological activity is anaerobic. An anaerobic lagoon does not include the following:

1. A runoff control basin or a settled open feedlot effluent basin which collects and stores only precipitation-induced runoff from an open feedlot operation.

2. An anaerobic treatment system that includes collection and treatment facilities for all off gases.

"Animal" means cattle, swine, horses, sheep, chickens, turkeys, goats, fish, or ducks.

"Animal capacity" means the maximum number of animals which the owner or operator will confine in an animal feeding operation at any one time. In a confinement feeding operation, the animal capacity of all confinement buildings will be included in the determination of the animal capacity of the operation, unless the building has been abandoned in accordance with the definition of "abandoned confinement feeding operation structure."

"Animal feeding operation" means a lot, yard, corral, building, or other area in which animals are confined and fed and maintained for 45 days or more in any 12-month period, and all structures used for the storage of manure from animals in the operation. Except as required for an NPDES permit required pursuant to the Act, an animal feeding operation does not include a livestock market. Open feedlots and confinement feeding operations are considered to be separate animal feeding operations.

1. For purposes of water quality regulation, Iowa Code section 459.301provides that two or more animal feeding operations under common ownership or management are deemed to be a single animal feeding operation if they are adjacent or utilize a common area or system for manure disposal. For purposes of the air quality-related separation distances in Iowa Code section 459.202, Iowa Code section 459.201 provides that two or more animal feeding operations under common ownership or management are deemed to be a single animal feeding operation if they are adjacent or utilize a common system for manure storage. The distinction is due to regulation of animal feeding operations for water quality purposes under the Act. 40 CFR 122.23 sets out the requirements for an animal feeding operation and requires that two or more animal feeding operations under common ownership be considered a single operation if they adjoin each other or if they use a common area or system for disposal of wastes.

However, this federal regulation does not control regulation of animal feeding operations for the purposes of the separation distances in Iowa Code section 459.202, and therefore the definition is not required by federal law to include common areas for manure disposal.

2. To determine if two or more animal feeding operations are deemed to be one animal feeding operation, the first test is whether the animal feeding operations are under common ownership or management. If they are not under common ownership or management, they are not one animal feeding operation. For purposes of water quality regulation, the second test is whether the two animal feeding operations are adjacent or utilize a common area or system for manure disposal. If the two operations are not adjacent and do not use a common area or system for manure disposal, they are not one animal feeding operation. For purposes of the separation distances in Iowa Code section 459.202, the second test is whether the two animal feeding operations are adjacent or utilize a common system for manure storage. If the two operations are not adjacent and do not use the same system for manure storage, they are not one animal feeding operation.

3. A common area or system for manure disposal includes, but is not limited to, use of the same manure storage structure, confinement feeding operation structure, egg washwater storage structure, stockpile, permanent manure transfer piping system or center pivot irrigation system. A common area or system for manure disposal does not include manure application fields included in a manure management plan or anaerobic digesters.

"Animal feeding operation structure" means a confinement building, manure storage structure, dry bedded confinement feeding operation structure, or egg washwater storage structure.

"Animal unit" means a unit of measurement based upon the product of multiplying the number of animals of each category by a special equivalency factor, as follows:

1. Slaughter and feeder cattle	1.000
2. Immature dairy cattle	1.000
3. Mature dairy cattle	1.400
4. Butcher or breeding swine weighing more than 55 pounds	0.400
5. Swine weighing 15 pounds or more but not more than 55 pounds	0.100
6. Sheep or lambs	0.100
7. Goats	0.100
8. Horses	2.000
9. Turkeys weighing 7 pounds or more	0.018
10. Turkeys weighing less than 7 pounds	0.0085
11. Broiler or layer chickens weighing 3 pounds or more	0.010
12. Broiler or layer chickens weighing less than 3 pounds	0.0025
13. Ducks	0.040
14. Fish	0.001

"Animal unit capacity" means a measurement used to determine the maximum number of animal units that may be maintained as part of an animal feeding operation at any one time, including as provided in Iowa Code sections 459.201 and 459.301. For dry bedded confinement feeding operations, "animal unit capacity" means the maximum number of animal units which the owner or operator confines in a dry bedded confinement feeding operation at any one time, including the animal unit capacity of all dry bedded confinement feeding operation buildings that are used to house cattle or swine in the dry bedded confinement feeding operation.

"Animal weight capacity" means the sum of the average weight of all animals in a confinement feeding operation when the operation is at full animal capacity. For confinement feeding operations with only one species, the animal weight capacity is the product of multiplying the animal capacity by the

average weight during a production cycle. For operations with more than one species, the animal weight capacity of the operation is the sum of the animal weight capacities for all species.

EXAMPLE 1. Bill wants to construct a confinement feeding operation with two confinement buildings and an earthen manure storage basin. The capacity of each building will be 900 market hogs. The hogs enter the building at 40 pounds and leave at 250 pounds. The average weight during the production cycle is then 145 pounds for this operation. The animal weight capacity of the operation is 145 pounds multiplied by 1,800 for a total of 261,000 pounds.

EXAMPLE 2. Howard is planning to build a confinement feeding operation with eight confinement buildings and an egg washwater storage lagoon. The capacity of each building will be 125,000 laying hens. The hens enter the building at around 2.5 pounds and leave at around 3.5 pounds. The average weight during the production cycle for these laying hens is 3.0 pounds. Manure will be handled in dry form. The animal weight capacity of the operation is 3.0 pounds multiplied by 1,000,000 for a total of 3,000,000 pounds.

EXAMPLE 3. Carol has an animal feeding operation with four confinement buildings with below floor formed concrete manure storage tanks and one open feedlot. One confinement building is a farrowing building with a capacity of 72 sows. One confinement building is a nursery building with a capacity of 1,450 pigs. The open feedlot contains 425 sows. Two of the confinement buildings are finishing buildings with a capacity of 1,250 market hogs. The farrowing building contains 72 sows at an average weight of 400 pounds for an animal weight capacity of 28,800 pounds. The nursery building contains 1,450 pigs with an average weight over the production cycle of 25 pounds for an animal weight capacity of 36,250 pounds. The two finishing buildings contain 2,500 market hogs (combined) with an average weight over the production cycle of 150 pounds for an animal weight capacity of 375,000 pounds. The total animal weight capacity of the confinement feeding operation is 440,050 pounds. The weights of the animals in open lots are not included in the calculation of the animal weight capacity of the confinement feeding operation.

"Applicant" means the person applying for a construction permit or an NPDES permit for a confinement feeding operation.

"Bedding" means crop, vegetation, or forage residue or similar materials placed in a dry bedded confinement building for the care of animals.

"Business" means a commercial enterprise.

"Cemetery" means a space held for the purpose of permanent burial, entombment or interment of human remains that is owned or managed by a political subdivision or private entity, or a cemetery regulated pursuant to Iowa Code chapter 523I. A cemetery does not include a pioneer cemetery where there have been six or fewer burials in the preceding 50 years.

"Church" means a religious institution.

"Commercial enterprise" means a building which is used as a part of a business that manufactures goods, delivers services, or sells goods or services, which is customarily and regularly used by the general public during the entire calendar year and which is connected to electric, water, and sewer systems. A commercial enterprise does not include a farm operation.

"Commercial manure service" means a sole proprietor or business association engaged in the business of transporting, handling, storing, or applying manure for a fee.

"Commercial manure service representative" means a manager, employee, agent, or contractor of a commercial manure service, if the person is engaged in transporting, handling, storing, or applying manure on behalf of the service.

"Common management" means significant control by an individual of the management of the day-to-day operations of each of two or more confinement feeding operations. "Common management" does not include control over a contract livestock facility by a contractor as defined in Iowa Code section 202.1.

"Common ownership" means the ownership of an animal feeding operation as a sole proprietor, or a majority ownership interest held by a person, in each of two or more animal feeding operations as a joint tenant, tenant in common, shareholder, partner, member, beneficiary, or other equity interest holder. The

majority ownership interest is a common ownership interest when it is held directly, indirectly through a spouse or dependent child, or both.

"Complete application" means an application that is complete and approvable when all necessary questions on the application forms have been completed, the application is signed and all applicable portions of the application, including the application form and required attachments, have been submitted.

"Confinement feeding operation" means an animal feeding operation in which animals are confined to areas which are totally roofed and includes every animal feeding operation that is not an "open feedlot operation" as defined in 567—65.100(459A).

"Confinement feeding operation building" or *"confinement building"* means a building used in conjunction with a confinement feeding operation to house animals.

"Confinement feeding operation structure" means an animal feeding operation structure that is part of a confinement feeding operation.

"Confinement site" means a site where there is located a manure storage structure which is part of a confinement feeding operation, other than a small animal feeding operation.

"Confinement site manure applicator" means a person, other than a commercial manure service or a commercial manure service representative, who applies manure on land if the manure originates from a manure storage structure.

"Construction approval letter" means a written document of the department to acknowledge that the preconstruction submittal requirements of 567—65.9(459,459B) have been met for a confinement feeding operation that is not required to obtain a construction permit pursuant to 567—65.7(459,459B).

"Construction design statement" means a document required to be submitted by a confinement feeding operation prior to constructing a formed manure storage structure, other than a small animal feeding operation, but that does not meet the threshold engineering requirements pursuant to 567—65.1(459,459B).

"Construction permit" means a written approval of the department to construct, modify or alter the use of an animal feeding operation structure as provided in subrule 65.7(1).

"Controlling interest" means ownership of a confinement feeding operation as a sole proprietor or a majority ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary, or other equity interest holder. The majority ownership interest is a controlling interest when it is held directly, indirectly through a spouse or dependent child, or both. The majority ownership interest must be a voting interest or otherwise control management of the confinement feeding operation.

"Covered" means organic or inorganic material, placed upon an animal feeding operation structure used to store manure, which significantly reduces the exchange of gases between the stored manure and the outside air. Organic materials include, but are not limited to, a layer of chopped straw, other crop residue, or a naturally occurring crust on the surface of the stored manure. Inorganic materials include, but are not limited to, wood, steel, aluminum, rubber, plastic, or Styrofoam. The materials shall shield at least 90 percent of the surface area of the stored manure from the outside air. Cover shall include an organic or inorganic material which current scientific research shows reduces detectable odor by at least 75 percent. A formed manure storage structure directly beneath a floor where animals are housed in a confinement feeding operation is deemed to be covered.

"Critical public area" means land that is owned or managed by the federal government, by the department, or by a political subdivision and that has unique scenic, cultural, archaeological, scientific, or historic significance or contains a rare or valuable ecological system. Critical public areas include:

- State wildlife and waterfowl refuges listed in 571—subrules 52.1(2) and 52.1(3);
- Recreation areas, state parks, state parks managed by another governmental agency, and state preserves as listed in 571—61.2(461A);
- County parks and recreation areas as provided in subrule 65.1(2);
- National wildlife refuges listed as follows: Union Slough National Wildlife Refuge, DeSoto National Wildlife Refuge, Boyer Chute National Wildlife Refuge, Upper Mississippi River National

Wildlife and Fish Refuge, Driftless Area National Wildlife Refuge, Neal Smith National Wildlife Refuge, and Port Louisa National Wildlife Refuge;

- National monuments and national historic sites listed as follows: Effigy Mounds National Monument and Herbert Hoover National Historic Site;
- Parks in Iowa that are under the federal jurisdiction listed with the United States Army Corps of Engineers as provided in subrule 65.1(2).

"Cropland" means any land suitable for use in agricultural production including, but not limited to, feed, grain and seed crops, fruits, vegetables, forages, sod, trees, grassland, pasture and other similar crops.

"Deep well" means a well located and constructed in such a manner that there is a continuous layer of low permeability soil or rock at least 5 feet thick located at least 25 feet below the normal ground surface and above the aquifer from which water is to be drawn.

"Designated area" means a known sinkhole, abandoned well, unplugged agricultural drainage well, agricultural drainage well cistern, agricultural drainage well surface tile inlet, drinking water well, designated wetland, or water source. "Designated area" does not include a terrace tile inlet or surface tile inlet other than an agricultural drainage well surface tile inlet.

"Designated wetland" means land designated as a protected wetland by the United States Department of the Interior or the department, including but not limited to a protected wetland as defined in Iowa Code section 456B.1, if the land is owned and managed by the federal government or the department. However, a designated wetland does not include land where an agricultural drainage well has been plugged causing a temporary wetland or land within a drainage district or levee district. Designated wetlands in the state are listed in the department's "Designated Wetlands in Iowa" (see subrule 65.1(2), Incorporation by reference).

"Discontinued animal feeding operation" means an animal feeding operation whose structures have been abandoned or whose use has been discontinued as evidenced by the removal of all animals and the owner or operator has no immediate plans to repopulate.

"Discontinued animal feeding operation structure" means an animal feeding operation structure that has been abandoned or whose use has been discontinued as evidenced by the removal of all animals from the structure and the owner or operator has no immediate plans to repopulate.

"Document" means any form required to be processed by the department under this chapter regulating animal feeding operations, including but not limited to applications or related materials for permits as provided in Iowa Code section 459.303, manure management plans as provided in Iowa Code section 459.312, comment or evaluation by a county board of supervisors considering an application for a construction permit, the department's analysis of the application including using and responding to a master matrix pursuant to Iowa Code section 459.304, and notices required under those sections.

"Dry bedded confinement feeding operation" means a confinement feeding operation in which cattle or swine are confined to areas which are totally roofed and in which all manure is stored as dry bedded manure. Unless specifically stated otherwise, all requirements in Division I of this chapter do apply to dry bedded confinement feeding operations.

"Dry bedded confinement feeding operation structure" means a dry bedded confinement feeding operation building or a dry bedded manure storage structure.

"Dry bedded manure" means manure from cattle or swine that meets all of the following requirements:

1. The manure does not flow perceptibly under pressure.
2. The manure is not capable of being transported through a mechanical pumping device designed to move a liquid.
3. The manure contains bedding.

"Dry bedded manure confinement feeding operation building" or *"building"* means a building used in conjunction with a confinement feeding operation to house cattle or swine and in which any manure from the animals is stored as dry bedded manure.

"Dry bedded manure storage structure" means a covered or uncovered structure, other than a building, used to store dry bedded manure originating from a confinement feeding operation.

"Dry manure" means manure which meets all of the following conditions:

1. The manure does not flow perceptibly under pressure.
2. The manure is not capable of being transported through a mechanical pumping device designed to move a liquid.
3. The constituent molecules of the manure do not flow freely among themselves but may show a tendency to separate under stress.

"Dry manure" includes manure marketed as a bulk dry animal nutrient product that is stored 1,250 feet or less from the confinement animal feeding structure from which it originated.

"Earthen manure storage basin" means an earthen cavity, either covered or uncovered, which, on a regular basis, receives manure discharges from a confinement feeding operation if accumulated manure from the basin is completely removed at least once each year.

"Earthen waste slurry storage basin" means an uncovered and exclusively earthen cavity which, on a regular basis, receives manure discharges from a confinement animal feeding operation if accumulated manure from the basin is completely removed at least twice each year and which was issued a permit, constructed or expanded on or after July 1, 1990, but prior to May 31, 1995.

"Educational institution" means a building in which an organized course of study or training is offered to students enrolled in kindergarten through grade 12 and served by local school districts, accredited or approved nonpublic schools, area educational agencies, community colleges, institutions of higher education under the control of the state board of regents, and accredited independent colleges and universities.

"Egg washwater storage structure" means an aerobic or anaerobic structure used to store the wastewater resulting from the washing and in-shell packaging of eggs. It does not include a structure also used as a manure storage structure.

"Enforcement action" means an action against a person with a controlling interest in a confinement feeding operation initiated by the department or the attorney general to enforce the provisions of Iowa Code chapter 459 or rules adopted pursuant to the chapter. An enforcement action begins when the attorney general institutes proceedings in district court pursuant to Iowa Code section 455B.112. An enforcement action is pending until final resolution of the action by satisfaction of a court order, for which all judicial appeal rights are exhausted, expired, or waived.

"Family member" means a person related to another person as parent, grandparent, child, grandchild, sibling, or a spouse of such related person.

"Formed manure storage structure" means a covered or uncovered impoundment used to store manure from an animal feeding operation, which has walls and a floor constructed of concrete, concrete block, wood, steel, or similar materials. Similar materials may include, but are not limited to, plastic, rubber, fiberglass, or other synthetic materials. Materials used in a formed manure storage structure shall have the structural integrity to withstand expected internal and external load pressures.

"Freeboard" means the difference in elevation between the liquid level and the confinement feeding operation structure's overflow level.

"Frozen ground" means soil that is impenetrable due to frozen soil moisture but does not include soil that is only frozen to a depth of two inches or less.

"Grassed waterway" means a natural or constructed channel that is shaped or graded to required dimensions and established in suitable vegetation for the stable conveyance of runoff.

"Highly erodible land" means a field that has one-third or more of its acres or 50 acres, whichever is less, with soils that have an erodibility index of eight or more, as determined by rules promulgated by the United States Department of Agriculture.

"Human sanitary waste" means wastewater derived from domestic uses including bathroom and laundry facilities generating wastewater from toilets, baths, showers, lavatories and clothes washing.

"Incidental" means a duty which is secondary or subordinate to a primary job or function.

"Incorporation" means a soil tillage operation following the surface application of manure which mixes the manure into the upper four inches or more of soil.

"Indemnity fund" means the manure storage indemnity fund created in Iowa Code section 459.501.

"Injection" means the application of manure into the soil surface using equipment that discharges it beneath the surface.

"Interest" means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary, or other equity interest holder. The ownership interest is an interest when it is held directly, indirectly through a spouse or dependent child, or both.

"Internet" means the federated international system that is composed of allied electronic communication networks linked by telecommunication channels, that uses standardized protocols, and that facilitates electronic communication services, including but not limited to use of the World Wide Web; the transmission of electronic mail or messages; the transfer of files and data or other electronic information; and the transmission of voice, image, and video.

"Karst terrain" means land having karst formations that exhibit surface and subterranean features of a type produced by the dissolution of limestone, dolomite, or other soluble rock and characterized by closed depressions, sinkholes, or caves. If a 25-foot vertical separation distance can be maintained between the bottom of an unformed manure storage structure and limestone, dolomite, or other soluble rock, then the structure is not considered to be in karst terrain.

"Liquid manure" means manure that meets all of the following requirements:

1. The manure flows perceptibly under pressure.
2. The manure is capable of being transported through a mechanical pumping device designated to move a liquid.
3. The constituent molecules of the liquid manure flow freely among themselves and show a tendency to separate under stress.

Liquid manure that is frozen or partially frozen is included in this definition.

"Livestock market" means any place where animals are assembled from two or more sources for public auction, private sale, or on a commission basis, which is under state or federal supervision, including a livestock sale barn or auction market, if such animals are kept for ten days or less.

"Long-term stockpile location" means an area where a person stockpiles manure for more than a total of six months in any two-year period.

"Low-pressure irrigation system" means spray irrigation equipment which discharges manure from a maximum height of 9 feet in a downward direction, and which utilizes spray nozzles which discharge manure at a maximum pressure of 25 pounds per square inch.

"Major water source" means a water source that is a lake, reservoir, river or stream located within the territorial limits of the state, or any marginal river area adjacent to the state, if the water source is capable of supporting a floating vessel capable of carrying one or more persons during a total of a six-month period in one out of ten years, excluding periods of flooding. Major water sources in the state are listed in Table 1 and Table 2 at the end of this chapter.

"Manager" means a person who is actively involved in the operation of the service and makes management decisions in the operation of a commercial manure service.

"Man-made manure drainage system" means a drainage ditch, flushing system, or other drainage device which was constructed by human beings and is used for the purpose of transporting manure.

"Manure" means animal excreta or other commonly associated wastes of animals including, but not limited to, bedding, litter, or feed losses. Manure does not include wastewater resulting from the washing and in-shell packaging of eggs. For the purposes of NPDES permitting, "manure" includes manure, bedding, compost and raw materials or other materials commingled with manure or set aside for disposal.

"Manure storage structure" means a formed manure storage structure, an unformed manure storage structure or a dry bedded manure storage structure. A manure storage structure does not include an egg washwater storage structure. An animal truck wash facility may be part of a confinement feeding operation. An animal truck wash effluent structure may be the same as a manure storage structure that is part of the confinement feeding operation, so long as the primary function of such impoundment is to collect and store both effluent from the animal truck wash facility and manure from the confinement feeding operation.

"New animal feeding operation" means an animal feeding operation whose construction was begun after July 22, 1987, or whose operation is resumed after having been discontinued for a period of 12 months or more.

"NPDES permit" means a written permit of the department, pursuant to the National Pollutant Discharge Elimination System (NPDES) program, to authorize and regulate the operation of a CAFO. "CAFO" means the same as defined in 567—65.100(459A).

"NRCS" means United States Department of Agriculture Natural Resources Conservation Services.

"One hundred year flood plain" means the land adjacent to a major water source, if there is at least a 1 percent chance that the land will be inundated in any one year, according to calculations adopted by rules adopted pursuant to Iowa Code section 459.103. In making the calculations, the department shall consider available maps or data compiled by the Federal Emergency Management Agency.

"Owner" means the person who has legal or equitable title to the property where the confinement feeding operation is located or the person who has legal or equitable title to the confinement feeding operation structures. "Owner" does not include a person who has a lease to use the land where the confinement feeding operation is located or to use the confinement feeding operation structures.

"Permanent vegetation cover" means land which is maintained in perennial vegetative cover consisting of grasses, legumes, or both, and includes, but is not limited to, pastures, grasslands or forages.

"Professional engineer" means a person engaged in the practice of engineering as defined in Iowa Code section 542B.2 who is issued a certificate of licensure as a professional engineer pursuant to Iowa Code section 542B.17.

"Public thoroughfare" means a road, street, or bridge that is constructed or maintained by the state or a political subdivision.

"Public use area" means that portion of land owned by the United States, the state, or a political subdivision with facilities which attract the public to congregate and remain in the area for significant periods of time. Facilities include, but are not limited to, picnic grounds, campgrounds, cemeteries, lodges and cabins, shelter houses, playground equipment, swimming beaches at lakes, and fishing docks, fishing houses, fishing jetties or fishing piers at lakes. It does not include a highway, road right-of-way, parking areas, recreational trails or other areas where the public passes through, but does not congregate or remain in the area for significant periods of time.

"Public water supply" (also referred to as a system or a water system) means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the supplier of water and used primarily in connection with such system, and (2) any collection (including wells) or pretreatment storage facilities not under such control which are used primarily in connection with such system. A public water supply system is either a "community water system" or a "noncommunity water system."

"Q100," as defined in 567—70.2(455B,481A), means a flood having a 1 percent chance of being equaled or exceeded in any one year as determined by the department.

"Qualified confinement feeding operation" means a confinement feeding operation which has an animal unit capacity of:

1. 5,333 or more for animals other than swine as part of a farrowing and gestating operation or farrow-to-finish operation or cattle as part of a cattle operation.
2. 2,500 or more for a swine farrowing and gestating operation, not including replacement breeding swine if the following apply:
   - The replacement breeding swine are raised at the confinement feeding operation; and
   - The replacement breeding swine are used in the farrowing and gestation operation.
3. 5,400 or more for a swine farrow-to-finish operation.
4. 8,500 or more for a confinement feeding operation maintaining cattle.

"Qualified stockpile cover" means a barrier impermeable to precipitation that is used to protect a stockpile from precipitation.

"Qualified stockpile structure" means a building or roofed structure that is all of the following:

1. Impermeable to precipitation.
2. Constructed using wood, steel, aluminum, vinyl, plastic, or other similar materials.
3. Constructed with walls or other means to prevent precipitation-induced surface runoff from contacting the stockpile.

"Release" means an actual, imminent or probable discharge of manure from an animal feeding operation structure to surface water, groundwater, drainage tile line or intake, or to a designated area resulting from storing, handling, transporting or land-applying manure.

"Religious institution" means a building in which an active congregation is devoted to worship.

"Research college" means an accredited public or private college or university, including but not limited to a university under control of the state board of regents as provided in Iowa Code chapter 262, or a community college under the jurisdiction of a board of directors for a merged area as provided in Iowa Code chapter 260C, if the college or university performs research or experimental activities regarding animal agriculture or agronomy.

"Residence" means a house or other building, including all structures attached to the building, not owned by the owner of the animal feeding operation, which meets all of the following criteria at the location of the intended residence:

1. Used as a place of habitation for humans on a permanent and frequent basis.
2. Not readily mobile.
3. Connected to a permanent source of electricity, a permanent private water supply or a public water supply system and a permanent domestic sewage disposal system including a private, semipublic or public sewage disposal system.
4. Assessed and taxed as real property.

If a house or other building has not been occupied by humans for more than six months in the last two years, or if a house or other building has been constructed or moved to its current location within six months, the owner of the intended residence has the burden of proving that the house or other building is a residence. Paragraph "3" shall not apply to a house or other building inhabited by persons who are exempt from the compulsory education standards of Iowa Code section 299.24 and whose religious principles or tenets prohibit the use of the utilities listed.

"Restricted spray irrigation equipment" means spray irrigation equipment which disperses manure through an orifice at a rate of 80 pounds per square inch or more.

"School" means an educational institution.

"Seasonal high-water table" means the part of the soil profile closest to the soil surface that becomes saturated (usually in the spring) as observed in a monitoring well or determined by recognition of soil redoxomorphic features.

NOTE: "Redoxomorphic features" refers to the gleying or mottling or both that occur under saturated conditions within the soil profile.

"Secondary containment barrier" means a structure used to retain accidental manure overflow from a manure storage structure.

"Shallow well" means a well located and constructed in such a manner that there is not a continuous layer of low permeability soil or rock (or equivalent retarding mechanism acceptable to the department) at least 5 feet thick, the top of which is located at least 25 feet below the normal ground surface and above the aquifer from which water is to be drawn.

"Small animal feeding operation" means an animal feeding operation which has an animal unit capacity of 500 or fewer animal units.

"Snow-covered ground" means soil covered by one inch or more of snow or soil covered by one-half inch or more of ice.

"Spray irrigation equipment" means mechanical equipment used for the aerial application of manure, if the equipment receives manure from a manure storage structure during application via a pipe or hose connected to the structure, and includes a type of equipment customarily used for aerial application of water to aid the growing of general farm crops.

"Stockpile" means dry manure or dry bedded manure originating from a confinement feeding operation that is stored at a particular location outside a confinement feeding operation building or a manure storage structure.

"Stockpile dry bedded manure" means to store dry bedded manure outside a dry bedded manure confinement feeding operation building or a dry bedded manure storage structure.

"Stockpile dry manure" means to create or add to a dry manure stockpile.

"Surface water drain tile intake" means an opening to a drain tile, including intake pipes and French drains, which allows surface water to enter the drain tile without filtration through the soil profile.

"Swine farrow-to-finish operation" means a confinement feeding operation in which porcine animals are produced and in which a primary portion of the phases of the production cycle is conducted at one confinement feeding operation. Phases of the production cycle include, but are not limited to, gestation, farrowing, growing and finishing. At a minimum, farrowing, growing, and finishing shall be conducted at the operation with a majority of the pigs farrowed at the site finished to market weight in order to qualify as a farrow-to-finish operation.

"Thoroughfare" means a road, street, bridge or highway open to the public and constructed or maintained by the state or a political subdivision.

"Threshold requirements for an engineer" means the limits, pursuant to Iowa Code section 459.303, which require that the design of a formed manure storage structure or egg washwater storage structure be prepared and signed by a professional engineer licensed in the state of Iowa or by an engineer working for the NRCS. A confinement feeding operation that utilizes a formed manure storage structure meets threshold requirements for an engineer if any of the following apply:

1. A confinement feeding operation with an animal unit capacity of 1,250 or more animal units for swine maintained as part of a swine farrowing and gestating operation.
2. A confinement feeding operation with an animal unit capacity of 2,750 or more animal units for swine maintained as part of a swine farrow-to-finish operation.
3. A confinement feeding operation with an animal unit capacity of 4,000 or more animal units for cattle maintained as part of a cattle operation.
4. Any other confinement feeding operation with an animal unit capacity of 3,000 or more animal units.

"Unformed manure storage structure" means a covered or uncovered impoundment used to store manure, other than a formed manure storage structure, which includes an anaerobic lagoon, aerobic structure, or earthen manure storage basin.

"Water of the state" means any stream, lake, pond, marsh, watercourse, waterway, well, spring, reservoir, aquifer, irrigation system, drainage system, and any other body or accumulation of water, surface or underground, natural or artificial, public or private, which are contained within, flow through or border upon the state or any portion thereof.

"Water source" means a lake, river, reservoir, creek, stream, ditch, or other body of water or channel having definite banks and a bed with water flow, except lakes or ponds without outlet to which only one landowner is riparian.

"Water well" means an excavation that is drilled, cored, bored, augered, washed, driven, dug, jetted, or otherwise constructed for the purpose of exploring for groundwater, monitoring groundwater, utilizing the geothermal properties of the ground, or extracting water from or injecting water into the aquifer. "Water well" does not include an open ditch or drain tiles or an excavation made for obtaining or prospecting for oil, natural gas, minerals, or products mined or quarried.

"Wetted perimeter" means the outside edge of land where the direct discharge of manure occurs from spray irrigation equipment.

65.1(2) *Incorporation by reference.* The text of the following incorporated materials is not included in Division I of this chapter. The materials listed below are hereby made a part of Division I of this chapter. For material subject to change, only the specific version specified in this subrule is incorporated. Any amendment or revision to a reference document is not incorporated until this subrule has been amended to specify the new version.

a. *"Act"* means the federal Water Pollution Control Act as amended through January 1, 2015, 33 U.S.C. Chapter 26;

b. *"AFO Siting Atlas"* means a tool to assist in determining potential building sites that meet regulatory requirements. The AFO Siting Atlas is located on the department's Web site;

c. *"CFR"* or *"Code of Federal Regulations"* means the federal administrative rules adopted by the United States in effect as of January 1, 2015;

d. County Parks and Recreation Areas listed in Iowa's County Conservation System Guide to Outdoor Adventure at http://www.mycountyparks.com/GuideBook/Iowa/index.html as shown on December 14, 2016;

e. Parks in Iowa under the federal jurisdiction of the United States Army Corps of Engineers listed on the United States Army Corps of Engineers' Web site at http://www.recreation.gov/campgroundDirectoryListByAgencyID.do?contractCode=NRSO&agencyID=70902 as shown on December 14, 2016;

f. Designated Wetlands in Iowa – effective date August 23, 2006, located on the department's Web site; and

g. Emergency spill line telephone number is (515)725-8694.

ITEM 2. Amend subparagraph **65.2(3)"d"(2)** as follows:

(2) Applicable NPDES requirements pursuant to the ~~federal Water Pollution Control Act, 33 U.S.C. Ch. 26, and 40 CFR Pts. 122 and 412~~ Act.

ITEM 3. Amend paragraph **65.2(9)"a"** as follows:

a. *Notification.* A person storing, handling, transporting, or land-applying manure from a confinement feeding operation who becomes aware of a release shall notify the department of the occurrence of release as soon as possible but not later than six hours after the onset or discovery of the release by contacting the ~~department at (515)281-8694~~ department's spill line. The local police department or the office of the sheriff of the affected county shall also be contacted within the same time period if the spill involves a public roadway and public safety could be threatened. Reports made pursuant to this rule shall be confirmed in writing as provided in 65.2(9)*"c."*

ITEM 4. Amend paragraph **65.3(3)"h"** as follows:

h. Setback requirements for confinement feeding operations with NPDES permits. For confinement feeding operations with NPDES permits, the following is adopted by reference: 40 CFR 412.4(a), (b) and (c)(5) ~~as amended through July 30, 2012~~.

ITEM 5. Amend subrule 65.3(4), introductory paragraph, as follows:

65.3(4) *Surface application of liquid manure on frozen or snow-covered ground.* A person who applies liquid manure on frozen or snow-covered ground shall comply with applicable NPDES requirements pursuant to the ~~federal Water Pollution Control Act, 33 U.S.C. Chapter 26, and 40 CFR Parts 122 and 412,~~ Act and also shall comply with the following requirements:

ITEM 6. Amend subparagraph **65.3(4)"c"(1)** as follows:

(1) An immediate need to apply manure in order to comply with the manure retention requirement of subrule 65.2(3) caused by the improper design or management of the manure storage structure, including but not limited to a failure to properly account for the volume of the manure to be stored. Based on the restrictions described in paragraphs 65.3(4)*"a"* and *"b"* and the possibility that the ground could be snow-covered and frozen for the entire period of December 21 to April 1, an operation should not plan to apply liquid manure during that time period. Confinement feeding operations with manure storage structures constructed after May 26, 2009, and without alternatives to manure application must have sufficient storage capacity to retain manure generated from December 21 to April 1 under normal circumstances in order to properly account for the volume of manure to be stored. For ~~the winters of 2010-2011 through 2014-2015 only,~~ confinement feeding operations that have no manure storage structures constructed after May 26, 2009, the department will accept insufficient manure storage capacity as a reason for emergency application in the notification required in 65.3(4)*"d"*(1).

ITEM 7. Amend rule 567—65.6(459,459B) as follows:

567—65.6(459,459B) Concentrated animal feeding operations; NPDES permits. Iowa Code subsection 459.311(2) requires a confinement feeding operation that is a concentrated animal feeding operation as defined in 40 CFR 122.23(b) to comply with applicable NPDES permit requirements pursuant to rules adopted by the commission. The following regulations ~~as amended through July 30, 2012,~~ are adopted by reference:

- 40 CFR 122.21, application for a permit.
- 40 CFR 122.23, concentrated animal feeding operations.
- 40 CFR 122.42(e), additional conditions applicable to specified categories of NPDES permits.
- 40 CFR 122.63(h), minor modification of permits.
- 40 CFR Part 412, concentrated animal feeding operations (CAFO) point source category.

ITEM 8. Adopt the following **new** paragraph **65.7(2)"d"**:

d. A construction permit is not required for a confinement feeding operation that exclusively confines fish and elects to comply with the permitting requirements of Iowa Code section 455B.183.

ITEM 9. Amend subrule 65.7(4) as follows:

65.7(4) *Construction permit application plan review criteria.* Review of plans and specifications submitted with a construction permit application shall be conducted to determine the potential of the proposed manure control system to achieve the level of manure control being required of the confinement feeding operation. In conducting this review, applicable criteria contained in federal law, state law, these rules, ~~Natural Resources Conservation Service~~ NRCS design standards and specifications unless inconsistent with federal or state law or these rules, and U.S. Department of Commerce precipitation data shall be used. If the proposed facility plans are not adequately covered by these criteria, applicable criteria contained in current technical literature shall be used.

ITEM 10. Amend subrule 65.7(5) as follows:

65.7(5) *Expiration of construction permits.* A construction permit ~~issued prior to June 15, 2005, shall expire if construction, as defined in rule 567—65.8(459,459B), is not begun within one year of the date of issuance and shall expire on June 15, 2012, if construction is not completed by June 14, 2012. A construction permit issued on or after June 15, 2005,~~ shall expire if construction, as defined in rule 567—65.8(459,459B), is not begun within one year and completed within four years of the date of issuance. The director may grant an extension of time to begin or complete construction if it is necessary or justified, upon showing of such necessity or justification to the director, unless a person who has an interest in the proposed operation is the subject of a pending enforcement action or a person who has a controlling interest in the proposed operation has been classified as a habitual violator. If a permitted site has not completed all proposed permitted structures within the four-year limit, then the approved animal unit capacity in the construction permit shall be lowered to be equal to what was constructed and the department shall issue a construction permit amendment for what was constructed.

ITEM 11. Amend subrule 65.7(7) as follows:

65.7(7) *Confinement feeding operations required to obtain a construction approval letter.* A person planning to construct a confinement feeding operation, other than a small animal feeding operation as defined in rule 567—65.1(459,459B) or other than an operation required to obtain a construction permit pursuant to subrule 65.7(1), shall obtain from the department a construction approval letter as provided in subrule 65.9(3) prior to beginning construction of a formed manure storage structure or a confinement building. The construction approval letter shall expire if construction, as defined in subrule 65.8(1), is not begun within one year and completed within four years of the date of the construction approval letter.

ITEM 12. Amend paragraph **65.7(8)"a"** as follows:

a. A person shall not construct a confinement feeding operation structure in the one hundred year flood plain. A person shall not begin construction of a confinement feeding operation structure located on alluvial soil until the department issues a declaratory order pursuant to subrule 65.7(9) that the proposed

location is not in the one hundred year flood plain. The AFO Siting Atlas may be a tool used to assist in the one hundred year flood plain and alluvial soil determinations.

ITEM 13. Amend subrule 65.7(9), introductory paragraph, as follows:

65.7(9) *Declaratory orders and flood plain determinations.* A person shall not construct a confinement feeding operation structure in the one hundred year flood plain. The AFO Siting Atlas may be a tool used to assist in the one hundred year flood plain and alluvial soil determinations. If the location of any proposed confinement feeding operation structure contains soils classified as alluvial determined pursuant to subrule 65.9(4), the owner shall petition the department for a declaratory order or a determination that the confinement feeding operation structure is not in the one hundred year flood plain. To be considered complete, the petition shall include all information necessary, pursuant to 567—Chapters 70 to 76, for the department to determine: (1) if the confinement feeding operation is proposed to be located on a one hundred year flood plain; (2) if a flood plain development permit for the operation is required; and (3) if a flood plain development permit may be issued if one is required. This information may include land surveys to determine elevations of the land within the footprint of the planned operation as well as flood plain and channel geometry. The petition for a declaratory order or determination shall be submitted to the department according to either of the following:

ITEM 14. Amend rule 567—65.8(459,459B) as follows:

567—65.8(459,459B) Construction. For purposes of these rules:

65.8(1) Construction of an animal feeding operation structure begins or an animal feeding operation structure is constructed when any of the following occurs:

a. Excavation for a proposed animal feeding operation structure, ~~or~~ excavation for footings, or filling or compacting of the soil or soil amendments for a proposed animal feeding operation structure.

b. and *c.* No change.

65.8(2) Construction does not begin upon occurrence of any of the following:

a. and *b.* No change.

c. General earth moving for leveling ~~or compacting~~ at the site.

d. No change.

65.8(3) Prohibition on construction.

a. to *c.* No change.

d. A confinement feeding operation structure shall not be constructed on the one hundred year flood plain in a major water source. Placing fill material on flood plain land to elevate the land above the one hundred year flood level will not be considered as removing the land from the one hundred year flood plain for the purpose of this paragraph. ~~In addition, a~~ A person shall not construct a confinement feeding operation structure on a flood plain outside of a major water source, as provided in 567—71.13(455B) until the department issues a flood plain development permit pursuant to 567—Chapters 70 to 76.

e. A person shall not construct a confinement feeding operation structure on land that contains alluvial soils, according to the Soil Survey published by the ~~Natural Resources Conservation Service of the United States Department of Agriculture~~ NRCS, and determined according to subrule 65.9(4), unless the person has received a declaratory order or a determination from the department ~~of natural resources~~ that the proposed location of the structure is not on the one hundred year flood plain, pursuant to subrule 65.7(9).

f. No change.

ITEM 15. Amend subrule 65.9(1) as follows:

65.9(1) *Construction permit application.* Application for a construction permit for a confinement feeding operation shall be made on a form provided by the department. The application shall include all of the information required in the form ~~and should be submitted to the department at least 120 days prior to the date the proposed construction is scheduled to begin~~. At the time the department receives a complete application, the department shall make a determination regarding the approval or denial of the permit in accordance with subrule 65.10(5). A construction permit application for a confinement feeding operation shall be filed as instructed on the form and shall include the following:

a. to *e.* No change.

f. Engineering documents. A confinement feeding operation that utilizes an unformed manure storage structure, an egg washwater storage structure or a formed manure storage structure at an operation that meets the threshold requirements for an engineer as defined in 567—65.1(459,459B) shall include an engineering report, construction plans and specifications. The engineering report, construction plans and specifications must be prepared and signed by a licensed professional engineer or by ~~a USDA Natural Resources Conservation Service (NRCS)~~ an NRCS qualified staff person, must detail the proposed structures, and must include a statement certifying that the manure storage structure complies with the requirements of Iowa Code chapter 459. In addition, a qualified soils or groundwater professional, licensed professional engineer or NRCS qualified staff shall submit a hydrogeologic report on soil corings in the area of the unformed manure storage structure or egg washwater storage structure as described in subrules 65.15(6) to 65.15(13).

g. to *s.* No change.

ITEM 16. Amend subrule 65.9(4) as follows:

65.9(4) ~~*Alluvial*~~ *One hundred year flood plain or alluvial soils submittal requirements.* Prior to beginning construction or expansion of a confinement feeding operation, the person planning the construction shall determine whether the proposed confinement feeding operation structure will be located in soils classified as alluvial as defined in 567—65.1(459,459B) and pursuant to paragraph 65.8(3)*"e."* The alluvial soils determination shall be obtained ~~by using the AFO Siting Atlas located at the department's official Web site or~~ by consulting a qualified department staff person, a soils professional normally engaged in the practice of soil investigation, or NRCS qualified staff. The AFO Siting Atlas may be a tool used to assist in the alluvial soil determination. The one hundred year flood plain information or the alluvial soils determination shall be submitted to the department according to the following:

a. If the proposed location is not in the one hundred year flood plain or alluvial soils, the person planning the construction shall submit a printed map ~~from the AFO Siting Atlas~~ clearly showing the location of each proposed confinement feeding operation structure or a written statement from qualified department staff, a soils professional normally engaged in the practice of soil investigation or NRCS qualified staff, with the construction permit application documents as required in subrule 65.9(1) or with the construction design statement as required in subrule 65.9(3) if a construction permit is not required.

b. If one hundred year flood plain information is not available and the proposed location is in alluvial soils, the person planning the construction shall petition the department for a declaratory order or a determination according to procedures required in subrule 65.7(9). It is recommended that the person planning the construction consult with qualified department staff before petitioning for a declaratory order or a determination. The department's determination indicating that the location is not in the one hundred year flood plain and a copy of the department's flood plain development permit pursuant to 567—Chapters 70 to 76, if required, must be submitted with the construction permit application documents pursuant to subrule 65.9(1). If a construction permit is not required pursuant to subrule 65.7(1), the department's declaratory order indicating that the location is not in the one hundred year flood plain and a copy of the department's flood plain development permit pursuant to 567—Chapters 70 to 76, if required, must be submitted when a construction design statement is filed pursuant to subrules 65.9(3) and 65.9(6).

ITEM 17. Amend subrule 65.9(5), introductory paragraph, as follows:

65.9(5) *Karst terrain submittal requirements.* Prior to beginning construction of a confinement feeding operation, the person planning the construction shall determine whether the proposed confinement feeding operation structure will be located in karst terrain, as defined in 567—65.1(459,459B). The karst terrain determination shall be obtained by ~~using the AFO Siting Atlas located at the department's official Web site or by~~ consulting a qualified department staff person, a soils professional normally engaged in the practice of soil investigation or NRCS qualified staff. The AFO Siting Atlas may be a tool used to assist in the karst terrain determination. The results of the karst terrain determination shall be submitted to the department according to the following:

ITEM 18. Amend subrule 65.9(7), introductory paragraph, as follows:

65.9(7) *Professional engineer design certification.* In lieu of a construction design statement prior to beginning construction of a formed manure storage structure, a confinement feeding operation, other than a small animal feeding operation, that is below the threshold requirements for an engineer pursuant to 567—65.1(459,459B) may file with the department a professional engineer design certification and design plans signed by a professional engineer licensed in the state of Iowa or an NRCS qualified staff person. The professional engineer design certification shall be site-specific and shall be filed on a form provided by the department as follows:

ITEM 19. Amend paragraph **65.9(8)"a"** as follows:

a. If a manure storage structure stores liquid or semi-liquid manure, the secondary containment barrier design shall include engineering drawings prepared and signed by a professional engineer licensed in the state of Iowa or an NRCS qualified staff person. For purposes of this subrule only, semiliquid manure means manure that contains a percentage of dry matter that results in manure too solid for pumping, but too liquid for stacking.

ITEM 20. Amend paragraph **65.10(2)"a,"** introductory paragraph, as follows:

a. Public notice. The county board of supervisors shall publish a notice that the board has received the construction permit application in a newspaper having general circulation in the county. The county board shall publish the notice as soon as possible but no later than 14 days after receiving ~~the permit application~~ instructions from the department that a complete application has been received. The notice shall include all of the following:

ITEM 21. Amend subparagraph **65.10(3)"b"(1)** as follows:

(1) In completing the master matrix, the board shall not score criteria on a selective basis. The board must score all criteria which are part of the master matrix according to the terms and conditions relating to construction as specified in the application or commitments for manure management that are to be incorporated into a manure management plan as provided in Iowa Code section 459.312 ~~as amended by 2009 Iowa Acts, Senate File 432, section 2~~.

ITEM 22. Amend subrule 65.10(5) as follows:

65.10(5) *Determination by the department.* The department must receive the county board of supervisors' comments or evaluation for approval or disapproval of an application for a construction permit not later than 30 days following the applicant's delivery of ~~the~~ a complete application to the department. Regardless of whether the department receives comments or an evaluation by a county board of supervisors, the department must render a determination or a preliminary determination to approve or disapprove an application for a construction permit within 60 days following the applicant's delivery of ~~an~~ a complete application to the department. However, the applicant may deliver a notice requesting a continuance. Upon receipt of a notice, the time required for the county or department to act upon the application shall be suspended for the period provided in the notice, but for not more than 30 days after the department's receipt of the notice. The applicant may submit more than one notice. However, the department may terminate an application if no action is required by the department for one year following delivery of the application to the board. The department may also provide for a continuance when it considers the application. The department shall provide notice to the applicant and the board of the continuance. The time required for the department to act upon the application shall be suspended for the period provided in the notice, but for not more than 30 days. However, the department shall not provide for more than one continuance. If review of the application is delayed because the application is incomplete, and the applicant fails to supply requested information within a reasonable time prior to the deadline for action on the application, the permit may be denied and a new application will be required if the applicant wishes to proceed.

The department will approve or disapprove an application as follows:

a. If the county board of supervisors does not submit a construction evaluation resolution to the department, fails to submit an adopted recommendation, submits only comments, or fails to submit comments, the department shall approve the application if the application meets the requirements of this

chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B. The department will disapprove the application if it does not meet such requirements.

b. If the board of supervisors for the county in which the confinement feeding operation is proposed to be constructed has filed a county construction evaluation resolution and submits an adopted recommendation to approve the construction permit application, which may be based on a satisfactory rating produced by the master matrix, to the department, the department shall preliminarily approve an application for a construction permit if the department determines that the application meets the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B. The department shall preliminarily disapprove an application that does not satisfy the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B regardless of the adopted recommendation of the board of supervisors. The department shall consider any timely filed comments made by the board as provided in this subrule to determine if an application meets the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B.

c. If the board submits to the department an adopted recommendation to disapprove an application for a construction permit that is based on a rating produced by the master matrix, the department shall first determine if the application meets the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B. The department shall preliminarily disapprove an application that does not satisfy the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B, regardless of any result produced by using the master matrix. If the application meets the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B, the department shall conduct an independent evaluation of the application using the master matrix. The department shall preliminarily approve the application if it achieves a satisfactory rating according to the department's evaluation. The department shall preliminarily disapprove the application if it produces an unsatisfactory rating regardless of whether the application satisfies the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B. The department shall consider any timely filed comments made by the board as provided in this subrule to determine if an application meets the requirements of this chapter and Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B.

ITEM 23. Amend paragraph **65.10(7)"a"** as follows:

a. A county board of supervisors that has submitted an adopted recommendation to the department may contest the department's preliminary decision to approve or disapprove an application for permit by filing a written demand for a hearing before the commission. Due to the need for expedited scheduling, the county board of supervisors shall, as soon as possible but not later than 14 days following receipt of the department's notice of preliminary decision, notify the ~~chief of the department's water quality bureau by facsimile transmission to (515)281-8895~~ department in writing that the board intends to file a demand for hearing. The demand for hearing shall be sent to ~~Director, Department of Natural Resources, Henry A. Wallace Building, 502 East Ninth Street, Des Moines, Iowa 50319,~~ the director of the department and must be postmarked no later than 30 days following the board's receipt of the department's notice of preliminary decision.

ITEM 24. Amend paragraph **65.10(8)"a"** as follows:

a. Applicant demand for hearing before the commission. Due to the need for expedited scheduling, the applicant shall, as soon as possible but not later than 14 days following receipt of the department's notice of preliminary decision, notify the ~~chief of the department's water quality bureau by facsimile transmission to (515)281-8895~~ department in writing that the applicant intends to file a demand for hearing. The demand for hearing shall be sent to ~~Director, Department of Natural Resources, Henry A. Wallace Building, 502 East Ninth Street, Des Moines, Iowa 50319,~~ the director of the department and must be postmarked no later than 30 days following the applicant's receipt of the department's notice of preliminary decision. If the county board of supervisors has filed a demand for hearing, the times for facsimile notification and filing a demand for hearing are extended an additional 3 business days. It is the responsibility of the applicant to communicate with the department to determine if a county demand for hearing has been filed. The demand for hearing shall include a statement setting forth all of the applicant's reasons why the application for permit should be approved or disapproved, including legal

briefs and all supporting documentation, and a further statement indicating whether an oral presentation before the commission is requested.

ITEM 25. Amend subrule 65.10(10) as follows:

65.10(10) *Complaint investigations.* Complaints of violations of Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B and this rule, which are received by the department or are forwarded to the department by a county, following a county board of supervisors' determination that a complainant's allegation constitutes a violation, shall be investigated by the department if it is determined that the complaint is legally sufficient and an investigation is justified.

a. No change.

b. A complaint is legally sufficient if it contains adequate information to investigate the complaint and if the allegation constitutes a violation, without investigating whether the facts supporting the allegation are true or untrue, of rules adopted by the department, Iowa Code ~~chapter~~ chapters 455B, 459, 459A and 459B or environmental standards in regulations subject to federal law and enforced by the department.

c. to *i.* No change.

ITEM 26. Amend subrule 65.11(9), introductory paragraph, as follows:

65.11(9) *Measurement of separation distances.* Except as provided in paragraph 65.11(9)*"f,"* the distance between confinement feeding operation structures and locations or objects from which separation is required shall be measured horizontally by standard survey methods between the closest point of the location or object (not a property line) and the closest point of the confinement feeding operation structure. The department may require that a separation distance be measured and certified by a licensed land surveyor, a professional engineer licensed in the state of Iowa, or ~~USDA Natural Resources Conservation Service (NRCS)~~ NRCS qualified staff in cases where the department cannot confirm a separation distance. For purposes of this subrule, structure shall not include areas that do not house animals or store manure or litter.

ITEM 27. Amend subrule 65.12(1) as follows:

65.12(1) *Exemptions to separation distance requirements from a residence, business, church, school and public use area.* As specified in Iowa Code section 459.205 ~~as amended by 2009 Iowa Acts, House File 735, section 4~~, the separation distances required from residences, businesses, churches, schools and public use areas specified in Iowa Code ~~section~~ sections 459.202 and ~~section~~ 459.204B ~~as amended by 2009 Iowa Acts, House File 735, section 3,~~ and required in subrules 65.11(1), 65.11(2) and 65.11(7), including Tables 6 to 6d at the end of this chapter, shall not apply to the following:

a. No change.

b. A confinement feeding operation structure which is constructed or expanded, if the titleholder of the land benefiting from the distance separation requirement executes a written waiver with the titleholder of the land where the structure, stockpile or qualified stockpile structure is located, under such terms and conditions that the parties negotiate. The waiver shall be specific to the construction or expansion project for which it is submitted. The waiver may include specific language to include future projects or expansions. The written waiver becomes effective only upon the recording of the waiver in the office of the recorder of deeds of the county in which the benefited land is located. The benefited land is the land upon which is located the residence, business, church, school or public use area from which separation is required. The filed waiver shall preclude enforcement by the department of the separation distance requirements of Iowa Code section 459.202. A copy of the recorded waiver shall be submitted with the construction design statement pursuant to subrule 65.9(3) if a construction permit is not required or as part of the construction permit application documents pursuant to subrule 65.9(1).

c. and *d.* No change.

ITEM 28. Amend subrule 65.12(2), introductory paragraph, as follows:

65.12(2) *Exemptions to separation distance requirements from public thoroughfares.* As specified in Iowa Code section 459.205 ~~as amended by 2009 Iowa Acts, House File 735, section 4~~, the separation

required from thoroughfares specified in Iowa Code section 459.202 and summarized in Tables 6 to 6d at the end of this chapter shall not apply to any of the following:

ITEM 29. Amend subrule 65.12(6), introductory paragraph, as follows:

65.12(6) *Exemption to separation distance requirements from cemeteries.* As specified in Iowa Code section 459.205 ~~as amended by 2009 Iowa Acts, House File 735, section 4~~, the separation distance required between a confinement feeding operation structure and a cemetery shall not apply if any of the following apply:

ITEM 30. Amend subrule 65.12(8) as follows:

65.12(8) *Exemptions to prohibition on one hundred year flood plain construction and separation distance requirements from water sources, major water sources, known sinkholes, agricultural drainage wells and designated wetlands—replacement formed manure storage structures.* As specified in Iowa Code section 459.310, subsection 4, a separation distance required in subrules 65.11(3) and 65.11(4) or the prohibition against construction of a confinement feeding operation structure on a one hundred year flood plain as provided in paragraph 65.8(3)*"e"* shall not apply to a confinement feeding operation that includes a confinement feeding operation structure that was constructed prior to March 1, 2003, if any of the following apply:

a. One or more unformed manure storage structures that are part of the confinement feeding operation are replaced with one or more formed manure storage structures on or after April 28, 2003, and all of the following apply:

(1) to (4) No change.

(5) The replacement formed manure storage structure meets or exceeds the requirements of Iowa Code section 459.307 ~~as amended by 2009 Iowa Acts, House File 735, section 7,~~ and subrule 65.15(14).

b. A replacement formed manure storage structure that is part of the confinement feeding operation is constructed on or after April 28, 2003, pursuant to a variance granted by the department. In granting the variance, the department shall make a finding of all of the following:

(1) No change.

(2) The replacement formed manure storage structure complies with standards adopted pursuant to Iowa Code section 459.307 ~~as amended by 2009 Iowa Acts, House File 735, section 7,~~ and subrule 65.15(14).

(3) No change.

ITEM 31. Amend paragraph **65.15(1)"b"** as follows:

b. Drainage tile lines discovered within the projected site of an unformed manure storage structure and within 50 feet of the projected structure's liquid surface at the high water level shall be removed and rerouted to at least 50 feet beyond the projected structure's liquid surface at the high water level. Drainage tile lines installed at the time of construction to lower a groundwater table may remain where located, provided that the tile lines are outside of the proposed berm. ~~A device to allow monitoring of the water in the drainage tile lines installed to lower the groundwater table and a device to allow shutoff of the drainage tile lines shall be installed if the drainage tile lines do not have a surface outlet accessible on the property where the unformed manure storage structure is located.~~ All other drainage tile lines discovered shall be rerouted, capped, or plugged with concrete, Portland cement concrete grout or similar materials.

ITEM 32. Amend subrule 65.15(2), introductory paragraph, as follows:

65.15(2) *Drainage tile removal around an existing manure storage structure.* The owner of an aerobic structure, anaerobic lagoon or earthen manure storage basin or earthen waste slurry storage basin, other than an egg washwater storage structure, that is part of a confinement feeding operation with a construction permit granted before March 20, 1996, but after December 31, 1992, shall inspect ~~by March 20, 1997,~~ for drainage tile lines as provided in this subrule, and all applicable records of known drainage tiles shall be examined. The owner of an aerobic structure, anaerobic lagoon, earthen manure storage basin or earthen waste slurry storage basin, other than an egg washwater storage structure, that is part of a confinement feeding operation with a construction permit granted before January 1, 1993,

but after May 31, 1985, shall ~~have an inspection conducted by July 1, 2000,~~ inspect for drainage tiles as provided in this subrule, and all applicable records of known drainage tiles shall be examined. Drainage tile lines shall not be installed within the separation distance provided in paragraph 65.15(1)*"b"* once the basin has been constructed.

ITEM 33. Amend paragraph **65.15(7)"b"** as follows:

b. Permanent artificial lowering of groundwater table.

(1) Unformed structures. The groundwater table around an unformed manure storage structure or earthen egg washwater storage structure may be artificially lowered to levels required in paragraph 65.15(7)*"a"* by using a gravity flow tile drainage system or other permanent nonmechanical system for artificial lowering of the groundwater table. Detailed engineering and soil drainage information shall be provided with a construction permit application for an unformed manure storage structure or earthen egg washwater storage structure ~~to confirm the adequacy of the proposed permanent system to provide the required drainage without materially increasing the seepage potential of the site~~ if a drainage system for artificially lowering the groundwater table will be installed. ~~Drainage tiles shall not be located closer than 6 feet horizontally from the structure's liquid surface at maximum operating depth. (See 65.15(1)*"b"* for monitoring and shutoff requirements for drainage tile lines installed to lower the groundwater table.)~~ The level to which the groundwater table will be lowered will be considered to represent the seasonal high-water table. If a drainage tile around the perimeter of the basin is installed a minimum of two feet below the top of the basin liner to artificially lower the seasonal high-water table, the top of the basin's liner may be a maximum of four feet below the seasonal high-water table which existed prior to installation of the perimeter tile system. Drainage tile lines shall be installed between the outside of the proposed toe of the berm and within 25 feet of the outside of the toe of the berm. Drainage tile lines shall be placed in a vertical trench and encased in granular material which extends upward to the level of the seasonal high-water table which existed prior to installation of the perimeter tile system. A device to allow monitoring of the water in the drainage tile lines installed to lower the groundwater table and a device to allow shutoff of the drainage tile lines shall be installed if the drainage tile lines do not have a surface outlet accessible on the property where the unformed manure storage structure is located.

(2) Formed structures. For a formed manure storage structure or a formed egg washwater storage structure, partially or completely constructed below the normal soil surface, a tile drainage system or other permanent system for artificial lowering of groundwater levels shall be installed around the structure if the groundwater table is above the bottom of the structure. (See ~~65.15(1)*"b"*~~ 65.15(7)*"b"*(1) for monitoring and shutoff requirements for drainage tile lines installed to lower the groundwater table.)

ITEM 34. Amend paragraph **65.15(7)"c"** as follows:

c. Determination of groundwater table. For purposes of this rule, groundwater table is the seasonal high water table determined by a licensed professional engineer, a groundwater professional certified pursuant to 567—Chapter 134, or qualified staff from the department or ~~Natural Resources Conservation Service (NRCS)~~ NRCS. If a construction permit is required, the department must approve the groundwater table determination.

(1) Current groundwater levels shall be measured using at least one of the following for either formed or unformed structures:

1. Temporary monitoring wells. ~~Each of the three~~ A minimum of three temporary monitoring wells shall be ~~developed according to 567—subrule 110.11(8)~~ installed. The top of the well screen shall be within 5 feet of the ground surface. Each well shall be extended to at least 2 feet below the bottom of the liner of an unformed manure storage structure, or to at least 2 feet below the footings of a formed manure storage structure.

- Unformed structures. For an unformed manure storage structure, each monitoring well may be installed in the existing boreholes resulting from the corings required in subrule 65.15(6).
- Formed structures. For a formed manure storage structure, at least three temporary monitoring wells shall be installed as close as possible to three corners of the structure, with one of the wells close to the corner of deepest excavation. If the formed structure is circular, the three monitoring wells shall be equally spaced and one well shall be placed at the point of deepest excavation.

2. Test pits. The department may allow use of test pits in lieu of temporary monitoring wells if seasonal variation in climatic patterns, soil and geologic conditions prevent accurate determination of the seasonal high water table or prior to the construction of an unformed manure storage structure liner to ensure that the required separation distance to the groundwater table is being met. The bottom of each test pit shall be at least 2 feet below the floor of the manure storage structure or egg washwater storage structure. Each pit shall be allowed to remain open and unaltered for a minimum of seven days for viewing by the department or NRCS qualified staff for the determination of soil characteristics and related groundwater influence. Adequate protection (temporary berms and covers) shall be provided to prevent surface runoff from entering the test pits. One test pit shall be located in each corner and one in the center of the proposed manure control structure, unless otherwise specified by the department. Test pits shall be backfilled and compacted to achieve the seepage loss as outlined in subrule 65.15(11). A description of the materials present in the test pit shall be documented by all of the following:

- Digital photos;
- Description of soils including mottling;
- Construction specifications; and
- Weather conditions both prior to and during the period in which test pits are open.

(2) No change.

ITEM 35. Amend subrule 65.15(11) as follows:

65.15(11) *Seals for unformed manure storage structures and unformed egg washwater storage structures.* An unformed manure storage structure or egg washwater storage structure shall be sealed such that seepage loss through the seal ~~is as low as practically possible. The percolation rate~~ shall not exceed 1/16 inch per day at the design depth of the structure. Following construction of the structure, the results of a testing program which indicates the adequacy of the seal shall be provided to this department in writing prior to start-up of a permitted operation.

ITEM 36. Amend subrule 65.15(14), introductory paragraph, as follows:

65.15(14) *Concrete standards.* A formed manure storage structure which is constructed of concrete on or after March 24, 2004, that is part of a confinement feeding operation other than a small animal feeding operation shall meet the following minimum standards. For the purpose of this subrule, a "PE" is a professional engineer licensed in the state of Iowa and an "NRCS engineer" is an engineer working for the ~~USDA Natural Resources Conservation Service (NRCS)~~ NRCS. (CAVEAT : These standards are not intended to address other site-related engineering and construction considerations beyond the department's jurisdiction.)

ITEM 37. Amend paragraph **65.15(14)"a"(2)"11"** as follows:

11. All walls shall be formed with rigid forming systems and shall not be earth-formed. Form ties shall be nonremovable to provide a liquid-tight structure. No conduits or pipes shall be installed through an outside wall below the maximum liquid level of the structure.

ITEM 38. Amend paragraph **65.15(14)"a"(2)"14"**as follows:

14. Backfilling of the walls shall not start until the floor slats or permanent bracing ~~have~~ has been installed and grouted. Backfilling shall be performed with material free of vegetation, large rocks or debris.

ITEM 39. Amend subparagraphs **65.15(14)"c"(1)**, **(2)** and **(5)** as follows:

(1) In an area that exhibits karst terrain or an area that drains into a known sinkhole, a PE, NRCS qualified staff or a qualified organization shall submit a soil exploration study based on the results from soil borings or test pits to determine the vertical separation between the bottom of the formed structure and limestone, dolomite, or other soluble rock. A minimum of two soil borings ~~or two test pits,~~ equally spaced within each formed structure~~,~~ or two test pits located within 5 feet of the outside of the formed structure are required. After soil exploration is completed, each soil boring and test pit shall be properly plugged with concrete grout, bentonite, or similar materials.

(2) A minimum 5-foot layer of low permeability soil (1×10^{-6} cm/sec) or rock between the bottom of a formed manure storage structure and limestone, dolomite, or other soluble rock is required if the formed manure storage structure is not designed by a PE or NRCS qualified staff.

(5) Backfilling shall not start until the floor slats have been placed or permanent bracing has been installed and grouted, and shall be performed with material free of vegetation, large rocks, or debris.

ITEM 40. Amend paragraph **65.15(17)"a"** as follows:

a. A secondary containment barrier shall consist of a structure surrounding or downslope of a manure storage structure and shall be designed according to either of the following:

(1) If the manure storage structure is used to store liquid or semiliquid manure, the secondary containment barrier shall be designed to contain 120 percent of the volume of manure stored above the manure storage structure's final grade or 50 percent of the volume of manure stored belowground or partially belowground, whichever is greater. Engineering drawings prepared by a professional engineer licensed in Iowa or NRCS qualified staff must be submitted according to procedures set forth in subrule 65.9(8) and must show compliance with 65.15(17)*"a"* to *"d"* or *"e."* If the containment barrier does not surround the manure storage structure, upland drainage must be diverted. For purposes of this subrule only, semiliquid manure means manure that contains a percentage of dry matter that results in manure too solid for pumping, but too liquid for stacking.

(2) If the manure storage structure is used for the storage of only dry manure, the secondary containment barrier shall be designed to contain at least 10 percent of the volume of manure stored. Detailed drawings prepared by the owner or a representative must be submitted according to procedures set forth in subrule 65.9(8) and must show compliance with 65.15(17)*"a"* to ~~*"d"*~~ *"c"* or *"e."* If the containment barrier does not surround the manure storage structure, upland drainage must be diverted. Any dry manure retained by the secondary containment barrier shall be removed and properly disposed of within 14 days.

ITEM 41. Adopt the following **new** paragraph **65.15(17)"f"**:

f. In lieu of the construction of the secondary containment barrier, the manure control structure can be designed to retain the manure and direct the manure back into the storage structure.

ITEM 42. Amend subrule 65.16(1) as follows:

65.16(1) In accordance with Iowa Code section 459.312 ~~as amended by 2009 Iowa Acts, Senate File 432, section 2~~, the following persons are required to submit manure management plans to the department, including an original manure management plan and an updated manure management plan, as required by this rule:

a. to *e.* No change.

f. An animal feeding operation otherwise required to submit an updated manure management plan and pay an annual compliance fee may make an election to be considered a small animal feeding operation for purposes of filing updated manure management plans and annual compliance fees if the confinement feeding operation maintains an animal unit capacity of 500 or fewer animal units. The election shall automatically terminate when more than 500 animal units are housed at the confinement feeding operation at any one time. If the confinement feeding operation exceeds more than 500 animal units, a manure management plan shall be submitted.

ITEM 43. Amend rule 567—65.17(459,459B), introductory paragraph, as follows:

567—65.17(459,459B) Manure management plan content requirements. All manure management plans are to be submitted on forms or electronically as prescribed by the department. The plans shall include all of the information specified in Iowa Code section 459.312 ~~as amended by 2009 Iowa Acts, Senate File 432, section 2,~~ and as described below.

ITEM 44. Rescind paragraph **65.17(4)"c".**

ITEM 45. Amend subparagraph **65.17(6)"a"(1)** as follows:

(1) Soil survey interpretation record. The plan shall include a map showing soil map units for the fields where manure will be applied. The optimum crop yield for each field shall be determined by

using the weighted average of the soil interpretation record yields for the soils on the cropland where the manure is to be applied. Soil interpretation records from ~~the Natural Resources Conservation Service~~ NRCS shall be used to determine yields based on soil map units.

ITEM 46. Amend subrule 65.17(13), introductory paragraph, as follows:

65.17(13) *Record keeping.* Records shall be maintained by the owner of a confinement feeding operation who is required to submit a manure management plan. ~~This recorded information shall be maintained for three years following the year of application or for the length of the crop rotation, whichever is greater.~~ Records shall be maintained for five years following the year of application or for the length of the crop rotation, whichever is greater. Records shall be maintained at the site of the confinement feeding operation or at a residence or office of the owner or operator of the facility within 30 miles of the site. Records to demonstrate compliance with the manure management plan shall include the following:

ITEM 47. Amend subrule 65.17(16), introductory paragraph, as follows:

65.17(16) *Soil sampling requirements for fields where the phosphorus index must be used.* Soil samples shall be obtained from each field in the manure management plan ~~at least once every four years,~~ and the soil samples shall be four years old or less. Each soil sample shall be analyzed for phosphorus and pH. The soil sampling protocol shall meet all of the following requirements:

ITEM 48. Amend subrule 65.17(17), introductory paragraph, as follows:

65.17(17) *Use of the phosphorus index.* Manure application rates shall be determined in conjunction with the use of the Iowa Phosphorus Index as specified by ~~the USDA Natural Resources Conservation Service (NRCS)~~ NRCS Iowa Technical Note No. 25.

ITEM 49. Amend paragraphs **65.17(17)"b"** and **"e"** as follows:

b. When sheet and rill erosion is calculated for the phosphorus index, the soil type used for the calculation shall be the most erosive soil map unit that is at least 10 percent of the total field area. ~~Effective September 15, 2010, in~~ In all ~~original and complete~~ manure management plans submitted to the department for approval, the dominant critical soil map unit consistent with NRCS conservation planning guidelines shall be used to calculate sheet and rill erosion for the phosphorus index. (See NRCS Technical Note No. 29).

e. For an original manure management plan, previous soil sampling data that does not meet the requirements of subrule 65.17(16) may be used in the phosphorus index if the data is four years old or less. In the case of fields for which soil sampling data is used that does not meet the requirements of subrule 65.17(16), the fields must be soil-sampled according to the requirements of subrule 65.17(16) no more than one year after the original manure management plan is approved and a new manure management plan shall be submitted with the results of the new samples.

ITEM 50. Rescind and reserve subrule **65.17(20)**.

ITEM 51. Amend paragraph **65.19(4)"a"** as follows:

a. Certification term. Certification for a commercial manure service and commercial manure service representative shall be for a period of one year and shall expire on March 1 of each year. Certification for a confinement site manure applicator shall be for a period of three years and shall expire on December 31 of the third year. ~~After June 30, 2001, the~~ The expiration dates of confinement site manure applicator certifications that currently expire on a date other than December 31 are automatically extended to December 31 of the year the certification expires.

ITEM 52. Amend rule 567—65.21(459,459B) as follows:

567—65.21(459,459B) Transfer of legal responsibilities or title. If title or legal responsibility for a permitted confinement feeding operation and its confinement feeding operation structure is transferred, the person to whom title or legal responsibility is transferred shall be subject to all terms and conditions of the construction permit and these rules. The person to whom the construction permit was issued and the person to whom title or legal responsibility is transferred shall notify the department of the transfer of legal responsibility or title of the operation within 30 days of the transfer. Within 30 days of receiving a

written request from the department, the person to whom legal responsibility is transferred shall submit to the department all information needed to modify the construction permit to reflect the transfer of legal responsibility. A person who has been classified as a habitual violator under Iowa Code section 459.604 shall not acquire legal responsibility or a controlling interest to any additional permitted confinement feeding operations for the period that the person is classified as a habitual violator. A person who has an interest in a confinement feeding operation that is the subject of a pending enforcement action shall not acquire legal responsibility or an interest to any additional permitted confinement feeding operations for the period that the enforcement action is pending.

ITEM 53. Rescind rule 567—65.100(455B,459,459A) and adopt the following **new** rule in lieu thereof:

567—65.100(459A) Definitions and incorporation by reference. In addition to the definitions in Iowa Code sections 455B.101, 455B.171 and 459A.102, the following definitions shall apply to Division II of this chapter:

65.100(1) *Definitions.*

"Abandoned" means an open feedlot operation structure that has been razed, removed from the site of an open feedlot operation, filled in with earth, or converted to uses other than an open feedlot operation structure so that it cannot be used as an open feedlot operation structure without significant reconstruction.

"Adjacent." Two or more open feedlot operations are defined as adjacent if both of the following occur:

1. At least one open feedlot operation structure is constructed on or after July 17, 2002.
2. An open feedlot operation structure which is part of one open feedlot operation is separated by less than 1,250 feet from an open feedlot operation structure which is part of the other open feedlot operation.

"Alternative technology settled open feedlot effluent control system" or *"AT system"* means use of an open feedlot effluent control technology other than a conventional runoff containment system to control and dispose of settled open feedlot effluent. The department may allow an open feedlot operation covered by the NPDES permit application requirements of 567—65.102(459A) or 567—65.103(455B,459A) to use an AT system, provided the open feedlot operation satisfactorily demonstrates the AT system will provide an equivalent level of performance to that achieved by a runoff containment system that is designed and operated as required by statute, 567—subrule 62.4(12) and Division II of this chapter. Demonstration of equivalent performance must include submitting results of computer modeling which compares the predicted performance of the proposed system with that of a conventional runoff containment system over the same period. The specific requirements which must be met for an open feedlot operation to qualify for use of an AT system and the information which must be submitted to the department are outlined in rule 567—65.110(459A).

Design requirements have been established for two types of AT systems. These are a vegetative infiltration basin (VIB) followed by a vegetative treatment area (VTA) and a stand-alone vegetative treatment area (VTA). If other AT systems are developed that meet the equivalent performance standard established under EPA's CAFO rules, the department will consider their acceptance on a case-by-case basis.

"Animal" means cattle, swine, horses, sheep, chickens, turkeys, goats, fish, or ducks.

"Animal capacity" means the maximum number of animals which the owner or operator will confine in an open feedlot operation at any one time.

"Animal feeding operation" or *"AFO"* means a lot, yard, corral, building, or other area in which animals are confined and fed and maintained for 45 days or more in any 12-month period, and all structures used for the storage of manure from animals in the operation. Except as required for an NPDES permit required pursuant to the Act, an animal feeding operation does not include a livestock market.

"Animal unit" means a unit of measurement based upon the product of multiplying the number of animals of each category by a special equivalency factor, as follows:

1. Slaughter and feeder cattle	1.000
2. Immature dairy cattle	1.000
3. Mature dairy cattle	1.400
4. Butcher or breeding swine weighing more than 55 pounds	0.400
5. Swine weighing 15 pounds or more but not more than 55 pounds	0.100
6. Sheep or lambs	0.100
7. Horses	2.000
8. Turkeys weighing 7 pounds or more	0.018
9. Turkeys weighing less than 7 pounds	0.0085
10. Broiler or layer chickens weighing 3 pounds or more	0.010
11. Broiler or layer chickens weighing less than 3 pounds	0.0025
12. Goats	0.100
13. Ducks	0.040
14. Fish	0.001

"Animal unit capacity" means a measurement used to determine the maximum number of animal units that may be maintained as part of an open feedlot operation. Only for purposes of determining whether an open feedlot operation must obtain an NPDES permit, the animal unit capacity of the animal feeding operation shall include the animal unit capacities of both the open feedlot operation and the confinement feeding operation if all of the following occur:

1. The animals in the open feedlot operation and the confinement feeding operation are all in the same category of animals as used in the definitions of "large CAFO" and "medium CAFO" in 40 CFR Part 122.
2. The closest open feedlot operation structure is separated by less than 1,250 feet from the closest confinement feeding operation structure.
3. The open feedlot operation and the confinement feeding operation are under common ownership or management.

"Common management" means significant control by an individual of the management of the day-to-day operations of each of two or more open feedlot operations. "Common management" does not include control over a contract livestock facility by a contractor as defined in Iowa Code section 202.1.

"Common ownership" means to hold an interest in each of two or more open feedlot operations as any of the following:

1. A sole proprietor.
2. A joint tenant or tenant in common.
3. A holder of a majority equity interest in a business association as defined in Iowa Code section 202B.102, including as a shareholder, partner, member, beneficiary, or other equity interest holder.

An interest in an open feedlot operation under "2" or "3" above is a common ownership interest when it is held directly or indirectly through a spouse or dependent child, or both.

"Concentrated animal feeding operation" or *"CAFO"* means an AFO that is defined as a large CAFO, a medium CAFO, or a designated CAFO.

"Deep well" means a well located and constructed in such a manner that there is a continuous layer of low permeability soil or rock at least 5 feet thick located at least 25 feet below the normal ground surface and above the aquifer from which water is to be drawn.

"Designated area" means a known sinkhole, or a cistern, abandoned well, unplugged agricultural drainage well, agricultural drainage well surface tile inlet, drinking water well, designated wetland, lake, or water source. A designated area does not include a terrace tile inlet or surface tile inlet other than an agricultural drainage well surface tile inlet.

"Designated CAFO" means an AFO that has been designated as a CAFO pursuant to rule 567—65.103(455B,459A).

"Discontinued open feedlot operation" means an open feedlot operation in which the open feedlot operation structures have been abandoned or the use of the open feedlot operation structures has been discontinued as evidenced by the removal of all animals, and the owner or operator has no immediate plans to repopulate the structures.

"Feed storage runoff basin" means a covered or uncovered impoundment with the primary function to collect and store runoff from a feed storage area.

"Formed settled open feedlot effluent basin" means a settled open feedlot effluent basin which has walls and a floor constructed of concrete, concrete block, wood, steel, or similar materials. Similar materials may include, but are not limited to, plastic, rubber, fiberglass, or other synthetic materials. Materials used in a formed settled open feedlot effluent basin shall have the structural integrity to withstand expected internal and external load pressures.

"Karst terrain" means land having karst formations that exhibit surface and subterranean features of a type produced by the dissolution of limestone, dolomite, or other soluble rock and characterized by closed depressions, sinkholes, losing streams, or caves. If a 25-foot vertical separation distance can be maintained between the bottom of an open feedlot operation structure and limestone, dolomite, or other soluble rock, then the structure is not considered to be in karst terrain.

"Livestock market" means any place where animals are assembled from two or more sources for public auction, private sale, or on a commission basis, which is under state or federal supervision, including a livestock sale barn or auction market, if such animals are kept for ten days or less.

"Manure" means animal excreta or other commonly associated wastes of animals including, but not limited to, bedding, compost, litter, feed losses, raw materials or other materials commingled with manure or set aside for disposal.

"NPDES permit" means a written permit of the department pursuant to the National Pollutant Discharge Elimination System (NPDES) program, to authorize and regulate the operation of a CAFO.

"Nutrient management plan" or *"NMP"* means a plan which provides for the management of manure, process wastewater, settled open feedlot effluent, settleable solids, open feedlot effluent, animal truck wash effluent, including the application of effluent, as provided in 567—65.112(459A).

"Open feedlot" means a lot, yard, corral, building, or other area used to house animals in conjunction with an open feedlot operation.

"Open feedlot effluent" means a combination of manure, precipitation-induced runoff, or other runoff from an open feedlot before its settleable solids have been removed. If an open feedlot operation structure or animal truck wash effluent structure contains effluent from both an open feedlot operation and an animal truck wash facility, the animal truck wash effluent shall be deemed to be open feedlot effluent.

"Open feedlot effluent basin" means an open feedlot basin which does not settle solids before the effluent goes to the basin.

"Open feedlot operation" means an unroofed or partially roofed animal feeding operation if crop, vegetation, or forage growth or residue is not maintained as part of the animal feeding operation during the period that animals are confined in the animal feeding operation. "Open feedlot operation" includes a "partially roofed animal feeding operation" as defined in this rule.

Iowa Code section 459A.103 provides that two or more open feedlot operations under common ownership or management are deemed to be a single open feedlot operation if they are adjacent or utilize a common area or system for open feedlot effluent disposal. To determine if two or more open feedlot operations are deemed to be one open feedlot operation, the first test is whether the open feedlot operations are under common ownership or management. If they are not under common ownership or management, they are not one open feedlot operation. The second test is whether the two open feedlot operations are adjacent or utilize a common area or system for open feedlot effluent disposal. If the two operations are not adjacent and do not use a common area or system for open feedlot effluent disposal, they are not one open feedlot operation.

"Open feedlot operation structure" means an open feedlot, a settled open feedlot effluent basin, a solids settling facility, or an AT system. "Open feedlot operation structure" does not include a manure storage structure as defined in Iowa Code section 459.102.

"Owner" means the person who has title to the property where the animal feeding operation or the animal truck wash facility is located or the person who has title to the animal feeding operation structures or the animal truck wash effluent structure which is part of an animal truck wash facility. "Owner" does not include a person who has a lease to use the land where the animal feeding operation or the animal truck wash facility is located or to use the animal feeding operation structures or the animal truck wash effluent structure which is part of an animal truck wash facility.

"Partially roofed animal feeding operation" means an animal feeding operation in which the animals have unrestricted access from any attached roofed structure and the square footage of the unroofed area is at least 10 percent of the square footage of any attached roofed area.

"Permanent vegetation cover" means land which is maintained in perennial vegetation cover consisting of grasses, legumes, or both, and includes, but is not limited to, pastures, grasslands or forages.

"Process wastewater" means water directly or indirectly used in the operation of the AFO for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing of pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water which comes into contact with any raw materials, products, or byproducts, including manure, litter, feed, milk, eggs or bedding.

"Production area" means that part of an AFO that includes the area in which animals are confined, the manure storage area, the raw materials storage area, egg washing and egg processing facilities, and the waste containment areas. The area in which animals are confined includes, but is not limited to, open lots, housed lots, feedlots, stall barns, free stall barns, milk rooms, milking centers, cow yards, barnyards, medication pens, walkers, animal walkways, confinement houses, and stables. The manure storage area includes, but is not limited to, lagoons, solids settling facilities, settled open feedlot effluent basins, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes, but is not limited to, feed silos, silage bunkers, and bedding materials. The waste containment area includes, but is not limited to, settling basins and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any area used in the storage, handling, treatment, or disposal of mortalities.

"Professional engineer" means a person engaged in the practice of engineering as defined in Iowa Code section 542B.2 who is issued a certificate of licensure as a professional engineer pursuant to Iowa Code section 542B.17.

"Release" means an actual, imminent or probable discharge of process wastewater, manure, open feedlot effluent, settled open feedlot effluent, or settleable solids from an open feedlot operation structure to surface water, groundwater, or an actual, imminent or probable discharge directly to a drainage tile line or intake resulting from storing, handling, transporting or land-applying process wastewater, manure, open feedlot effluent, settled open feedlot effluent or settleable solids.

"Settleable solids," "scraped solids," or *"solids"* means that portion of the effluent that meets all the following requirements:

1. The solids do not flow perceptibly under pressure.
2. The solids are not capable of being transported through a mechanical pumping device designed to move a liquid.
3. The constituent molecules of the solids do not flow freely among themselves but do show the tendency to separate under stress.

"Settled open feedlot effluent" means a combination of manure, precipitation-induced runoff, or other runoff originating from an open feedlot after its settleable solids have been removed.

"Settled open feedlot effluent basin" or *"runoff control basin"* means a covered or uncovered impoundment which is part of an open feedlot operation, if the primary function of the impoundment is to collect and store settled open feedlot effluent. An animal truck wash facility may be part of an

open feedlot operation. An animal truck wash effluent structure may be the same as a settled open feedlot effluent basin that is part of the open feedlot operation, so long as the primary function of such impoundment is to collect and store effluent from both the animal truck wash facility and the open feedlot operation.

"Shallow well" means a well located and constructed in such a manner that there is not a continuous layer of low permeability soil or rock (or equivalent retarding mechanism acceptable to the department) at least 5 feet thick, the top of which is located at least 25 feet below the normal ground surface and above the aquifer from which water is to be drawn.

"Solids settling facility" means a basin, terrace, diversion, or other structure or solids removal method which is part of an open feedlot operation and which is designed and operated to remove settleable solids from open feedlot effluent. A "solids settling facility" does not include a basin, terrace, diversion, or other structure or solids removal method which retains the liquid portion of open feedlot effluent for more than seven consecutive days following a precipitation event.

"Stockpile" means any accumulation of manure, scraped solids, settleable solids or combination of manure and solids located outside of the open feedlot or animal truck wash facility or outside of an area that drains to an open feedlot or animal truck wash facility, where the scraped manure or solids are stored for less than six months.

"Unformed settled open feedlot effluent basin" means a settled open feedlot effluent basin, other than a formed settled open feedlot effluent basin.

"Vegetative infiltration basin" or *"VIB"* means an open feedlot operation structure in which settled open feedlot effluent is discharged into a relatively flat basin area which is bermed to prevent entry or discharge of surface water flows and is planted to permanent vegetation. An extensive tile system installed at a depth of three to five feet is used to collect infiltrated settled open feedlot effluent from the VIB and discharge it into a VTA for further treatment. As opposed to wetlands, which are designed to maintain a permanent water level, a VIB is designed to maximize water infiltration into the soil and thus normally will have standing water for only short periods of time. Removal of settleable solids is required prior to discharge of open feedlot effluent into the VIB. Soil suitability is essential to ensure adequate filtration and treatment of pollutants. Periodic harvesting of vegetation is required.

"Vegetative treatment area" or *"VTA"* means an open feedlot operation structure in which settled open feedlot effluent is discharged into areas which are level in one dimension and have a slight slope (less than 5 percent) in the other dimension and are planted to relatively dense permanent vegetation. Settled open feedlot effluent must be discharged evenly across the top width of the VTA and allowed to slowly flow downslope through the VTA. Level spreaders or other practices may be required to maintain even flow throughout the length of the VTA. Management to maintain a dense vegetation cover is required, as is periodic harvesting of vegetation.

"Water of the state" means any stream, lake, pond, marsh, watercourse, waterway, well, spring, reservoir, aquifer, irrigation system, drainage system, and any other body or accumulation of water, surface or underground, natural or artificial, public or private, which are contained within, flow through or border upon the state or any portion thereof.

"Water well" means an excavation that is drilled, cored, bored, augered, washed, driven, dug, jetted, or otherwise constructed for the purpose of exploring for groundwater, monitoring groundwater, utilizing the geothermal properties of the ground, or extracting water from or injecting water into the aquifer. "Water well" does not include an open ditch or drain tiles or an excavation made for obtaining or prospecting for oil, natural gas, minerals, or products mined or quarried.

"Waters of the United States" means the same as defined in 40 CFR 122.2.

65.100(2) *Incorporation by reference.* The text of the following incorporated materials is not included in Division II of this chapter. The materials listed below are hereby made a part of Division II of this chapter. For material subject to change, only the specific version specified in this subrule is incorporated. Any amendment or revision to a reference document is not incorporated until this subrule has been amended to specify the new version.

a. *"Act"* means the federal Water Pollution Control Act as amended through January 1, 2015, 33 U.S.C. Chapter 26;

b. *"AFO Siting Atlas"* means a tool to assist in determining potential building sites that meet regulatory requirements. The AFO Siting Atlas is located on the department's Web site;

c. *"CFR"* or *"Code of Federal Regulations"* means the federal administrative rules adopted by the United States in effect as of January 1, 2015;

d. Designated Wetlands in Iowa – effective date August 23, 2006, located on the department's Web site; and

e. Spill line telephone number is (515)725-8694.

ITEM 54. Amend rule 567—65.101(459A), introductory paragraph, as follows:

567—65.101(459A) Minimum open feedlot effluent control requirements and reporting of releases. An open feedlot operation shall provide for the management of manure, process wastewater, settled open feedlot effluent, settleable solids, scraped solids, and open feedlot effluent by using an open feedlot control method as provided in subrules 65.101(1) to 65.101(8). A release shall be reported to the department as provided in subrule 65.101(9).

ITEM 55. Amend subrules 65.101(2) and 65.101(3) as follows:

65.101(2) This subrule shall apply to an open feedlot operation which has obtained an NPDES permit pursuant to 567—65.102(455B,459A) or 567—65.103(455B,459A).

a. An open feedlot operation may discharge manure, process wastewater, settled open feedlot effluent, settleable solids, or open feedlot effluent into any waters of the United States due to a precipitation event, if ~~any of the following apply:~~

~~(1) For an~~ the open feedlot operation ~~that houses cattle, other than veal calves, the operation~~ is designed, constructed, operated, and maintained to comply with the requirements of 567—subrule 62.4(12) and ~~not to discharge manure, process wastewater, settled open feedlot effluent, settleable solids, or open feedlot effluent resulting from precipitation events less than or equal to the 25-year, 24-hour precipitation event into any waters of the United States~~ 40 CFR Part 412.

~~(2) For an open feedlot operation that houses veal calves, swine, chickens, or turkeys, the operation is designed, constructed, operated, and maintained not to discharge manure, process wastewater, settled open feedlot effluent, settleable solids, or open feedlot effluent resulting from precipitation events less than or equal to the 100-year, 24-hour precipitation event into any waters of the United States.~~

b. No change.

65.101(3) An open feedlot operation which has an animal unit capacity of 1,000 animal units or more, or an open feedlot operation which is a large CAFO, or a medium $CAFO_2$ ~~as defined in rule 567—65.100(455B,459,459A)~~ or a designated $CAFO_2$ ~~pursuant to rule 567—65.103(455B,459A)~~ shall not discharge manure, process wastewater, settled open feedlot effluent, settleable solids or open feedlot effluent from an open feedlot operation structure or production area into any waters of the United States, unless the discharge is pursuant to an NPDES permit. The control of manure, process wastewater, settled open feedlot effluent, settleable solids or open feedlot effluent originating from the open feedlot operation may be accomplished by the use of a solids settling facility, settled open feedlot effluent basin, AT system, or any other open feedlot effluent control structure or practice approved by the department. The department may require the diversion of surface drainage prior to contact with an open feedlot operation structure. Settleable solids shall be settled from open feedlot effluent before the effluent enters a settled open feedlot effluent basin or AT system.

ITEM 56. Amend subrules 65.101(6), 65.101(8) and 65.101(9) as follows:

65.101(6) Land application.

a. and *b.* No change.

c. *CAFOs.*

(1) No change.

(2) Setback requirements for open feedlot operations with NPDES permits. For open feedlot operations with NPDES permits, the following is adopted by reference: 40 CFR 412.4(a), (b) and (c)(5) ~~as amended through July 30, 2012~~.

65.101(8) Stockpiling of scraped ~~manure~~ solids and settleable solids. Stockpiles of ~~manure~~ solids scraped from open feedlot operations and stockpiles of settleable solids shall comply with the following requirements.

a. to *e.* No change.

65.101(9) A release, as defined in rule 567—65.100(~~455B,459,~~459A), shall be reported to the department as provided in this subrule. This subrule does not apply to the land application of manure, process wastewater, open feedlot effluent, settled open feedlot effluent, scraped solids, or settleable solids in compliance with these rules, or to precipitation- or snowmelt-induced runoff from open feedlots in compliance with the minimum control requirements set forth in this rule.

a. Notification. A person storing, handling, transporting, or land-applying manure, process wastewater, open feedlot effluent, settled open feedlot effluent, scraped solids, or settleable solids from an open feedlot operation who becomes aware of a release shall notify the department of the occurrence of release as soon as possible but not later than six hours after the onset or discovery of the release by contacting the ~~department at (515)281-8694~~ department's spill line. The local police department or the office of the sheriff of the affected county shall also be contacted within the same time period if the release involves a public roadway and public safety could be threatened. Reports made pursuant to this rule shall be confirmed in writing as provided in 65.101(9)*"c."*

b. No change.

c. Written report. The written report of a release shall be submitted at the request of the department within 30 days after the verbal report of the release and contain at a minimum the following information:

(1) to (6) No change.

(7) The estimated or known volume of manure, process wastewater, open feedlot effluent, settled open feedlot effluent, scraped solids, or settleable solids allegedly released.

(8) to (12) No change.

d. and *e.* No change.

ITEM 57. Rescind rule 567—65.102(455B,459A) and adopt the following **new** rule in lieu thereof:

567—65.102(459A) Concentrated animal feeding operations; NPDES permits. Iowa Code subsection 459A.401(2) requires an open feedlot that is a concentrated animal feeding operation as defined in 40 CFR 122.23(b) to comply with applicable NPDES permit requirements pursuant to rules adopted by the commission. The following regulations are adopted by reference:

- 40 CFR 122.21, application for a permit.
- 40 CFR 122.23, concentrated animal feeding operations.
- 40 CFR 122.42(e), additional conditions applicable to specified categories of NPDES permits.
- 40 CFR 122.63(h), minor modification of permits.
- 40 CFR Part 412, concentrated animal feeding operations (CAFO) point source category.

ITEM 58. Amend subrules 65.104(3) and 65.104(4) as follows:

65.104(3) *Expansion of existing animal feeding operations.* A person intending to expand an existing animal feeding operation which, upon completion of the expansion, will be defined as a CAFO and if the operation discharges pollutants to waters of the United States shall apply for an NPDES permit at least 90 days prior to the scheduled expansion. Operation of the expanded portion of the facility shall not begin until an NPDES permit has been obtained.

65.104(4) *New animal feeding operations.* A person intending to begin a new animal feeding operation which, upon completion, will be defined as a CAFO and if the operation discharges pollutants to waters of the United States shall apply for an NPDES permit at least 180 days prior to the date operation of the new animal feeding facility is scheduled. Operation of the new facility shall not begin until an NPDES permit has been obtained.

ITEM 59. Rescind and reserve subrule **65.104(6)**.

ITEM 60. Amend subrules 65.104(9) and 65.104(10) as follows:

65.104(9) *Permit conditions.* NPDES permits shall contain conditions required by 40 CFR Section 122.41 and conditions considered necessary by the department to ensure compliance with all applicable

rules of the department, to ensure that the production area and land application areas are operated and maintained as required by Iowa law, to protect the public health and beneficial uses of waters of the United States, and to prevent water pollution from manure storage or application operations. Any more stringent conditions of ~~2005~~ Iowa Code ~~Supplement~~ chapter 459A, 567—subrule 62.4(12), and this chapter that apply to animal feeding operations shall govern. For CAFOs that maintain cattle, swine, or poultry, the following conditions shall be included:

a. Nutrient management plan. Open feedlot CAFOs shall comply with the requirements of 567—65.112(459A) and any additional nutrient management plan requirements for CAFOs in these rules ~~by December 31, 2006~~. CAFOs that seek to obtain coverage under an NPDES permit ~~issued after December 31, 2006,~~ shall have a nutrient management plan developed and implemented upon the date of permit coverage.

b. and *c.* No change.

d. Minimum monitoring requirements for AT systems. During the first ~~two~~ five years of operation of an AT system, the following minimum monitoring will be required:

(1) to (4) No change.

e. Quarterly reporting requirements for large CAFOs with outside liquid impoundments. A permittee with outside liquid impoundments must submit quarterly reports by April 10, July 10, October 10, and January 10, following the respective calendar quarters, documenting daily precipitation, weekly impoundment liquid levels, volume of liquid removed from the impoundments, and the date, time, duration, and estimated volume of any overflow. Liquid levels must be obtained by observing a depth marker which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour precipitation event. ~~or the 100-year, 24-hour precipitation event as applicable pursuant to 65.101(2)"a."~~

f. Annual reporting requirements for all CAFOs with systems other than AT systems. All permittees must submit an annual report to the department by January 10 of the following year. The annual report must include:

(1) to (4) No change.

(5) Summary of all manure, process wastewater, settled open feedlot effluent, settleable solids, or open feedlot effluent discharges from the production area that have occurred in the previous 12 months, including date, time, and approximate volume; ~~and~~

(6) A statement indicating whether the current version of the CAFO's nutrient management plan was developed or approved by a certified nutrient management planner~~.~~;

(7) Actual crops planted and actual yield for the preceding 12 months; and

(8) Results of all samples of manure, litter and process wastewater for nitrogen and phosphorus content for manure, litter and process wastewater that was land-applied.

g. and *h.* No change.

65.104(10) *Permit renewal.*

a. No change.

b. Permits involving use of AT systems.

(1) ~~During the first two years of operation of an AT system, a permittee will be issued a two-year NPDES permit.~~ Renewal of ~~this~~ a permit involving use of an AT system is contingent upon proper operation and maintenance of the AT system, submittal of all required records and reports, and demonstration that the AT system is providing an equivalent level of performance to that achieved by a containment system that is designed and operated as required by statute, 567—subrule 62.4(12) and Division II of this chapter.

(2) No change.

ITEM 61. Amend subrule 65.105(3) as follows:

65.105(3) *Applications that cannot be approved.* The department shall not approve an application for a construction permit unless the applicant submits all of the following:

a. No change.

b. An engineering report, construction plans, and specifications prepared by a professional engineer or ~~the Natural Resources Conservation Service of the United States Department of Agriculture~~ NRCS certifying that the ~~construction~~ design of the settled open feedlot effluent basin or AT system complies with the construction design standards required in Division II of this chapter ~~65~~.

ITEM 62. Amend subrule 65.105(4) as follows:

65.105(4) *Plan review criteria; time for approval or disapproval.*

a. Plan review criteria. Review of plans and specifications shall be conducted by the department to determine the potential of the settled open feedlot effluent basin or AT system to achieve the level of control being required of the open feedlot operation. Applicable criteria contained in federal law, state law, these rules, ~~Natural Resources Conservation Service~~ NRCS design standards and specifications, unless inconsistent with federal or state law or these rules, and United States Department of Commerce precipitation data will be used in the review of large CAFOs. If the proposed facility plans are not adequately covered by these criteria, applicable criteria contained in current technical literature shall be used. Medium CAFOs and designated CAFOs shall be evaluated using the department's professional judgment.

b. No change.

ITEM 63. Amend subrule 65.105(5) as follows:

65.105(5) *Expiration of construction permits.* The construction permit shall expire if construction, as defined in rule 567—65.106(459A), is not begun within one year and completed within three years of the date of issuance. ~~A construction permit issued prior to September 14, 2005, shall expire if construction, as defined in rule 567—65.106(459A), is not begun within one year of the date of issuance and shall expire on September 15, 2012, if construction is not completed by September 14, 2012.~~ The director may grant an extension of time to begin or complete construction if it is necessary or justified, upon showing of such necessity or justification to the director.

ITEM 64. Amend subrule 65.106(2) as follows:

65.106(2) Construction does not begin upon occurrence of any of the following:

a. Removal of trees, brush, or other vegetative growth.

b. Construction of driveways or roads.

c. General earth moving for leveling ~~or compacting~~ at the site.

d. Installation of temporary utility services.

ITEM 65. Amend paragraph **65.107(2)"f"** as follows:

f. An engineering report, construction plans and specifications prepared by a professional engineer or by ~~Natural Resources Conservation Service~~ NRCS personnel for the settled open feedlot effluent basin or AT system.

ITEM 66. Amend rule 567—65.108(455B,459A) as follows:

567—65.108(455B,459A) Water well separation distances for open feedlot operations.

65.108(1) ~~*Settled*~~ *Unformed settled open feedlot effluent basins.* ~~Settled~~ Unformed settled open feedlot effluent basins shall be separated from water wells as follows:

a. Public wells. 1,000 feet from shallow wells and 400 feet from deep wells;

b. Private wells. 400 feet from both shallow wells and deep wells.

65.108(2) *Open feedlots, solids settling facilities, formed settled open feedlot effluent basins, feed storage runoff control structures and AT systems.* Open feedlots, solids settling facilities, formed settled open feedlot effluent basins, feed storage runoff control structures and AT systems shall be separated from water wells as follows: for both public wells and private wells, 200 feet from shallow wells and 100 feet from deep wells.

65.108(3) No change.

ITEM 67. Amend rule 567—65.109(459A) as follows:

567—65.109(459A) Settled open feedlot effluent basins—investigation, design and construction requirements. A settled open feedlot effluent basin required to be constructed pursuant to a construction permit issued pursuant to ~~2005~~ Iowa Code ~~Supplement~~ section 459A.205 shall meet the design and construction requirements set forth in this rule.

65.109(1) No change.

65.109(2) *Soils and hydrogeologic report.* A settled open feedlot effluent basin required to be constructed pursuant to a construction permit issued pursuant to rule 567—65.105(459A) shall meet design standards as required by a soils and hydrogeologic report. The report shall be submitted with the construction permit application as provided in rule 567—65.107(459A). The report shall include all of the following:

a. and *b.* No change.

c. The results of a soils investigation conducted at a minimum of three locations within the area of the basin reflecting the continuous soil profile existing within the area of the basin. The soils investigation results shall be used in determining subsurface soil characteristics and groundwater elevation and direction of flow at the proposed site. The soils investigation shall be conducted and utilized as follows:

(1) to (3) No change.

(4) If located in karst terrain or potential karst terrain, at least one soil coring shall be taken to a minimum depth of 25 feet below the bottom elevation of the settled open feedlot effluent basin or into bedrock, whichever is shallower. ~~The department may accept information from the department's Geosam database in lieu of the coring. If bedrock is encountered, adequate investigation of the bedrock formation shall be made to determine if it consists of limestone, dolomite, or other soluble rock.~~

(5) to (7) No change.

65.109(3) *Hydrology.*

a. Determination of groundwater table. For purposes of this rule, groundwater table is the seasonal high-water table determined by a professional engineer, a groundwater professional certified pursuant to 567—Chapter 134, or qualified staff from the department or ~~Natural Resources Conservation Service (NRCS)~~ NRCS. If a construction permit is required, the department must approve the groundwater table determination.

(1) and (2) No change.

b. and *c.* No change.

65.109(4) *Karst terrain.*

a. and *b.* No change.

c. Construction of an unformed settled open feedlot effluent ~~basins~~ basin is allowed in areas identified as karst terrain if site-specific geologic information is submitted documenting that 25 feet of suitable materials exist between the structure bottom and carbonated bedrock or limestone or dolomite.

65.109(5) No change.

65.109(6) *Floodplain requirements.*

a. Construction in floodplains. Open feedlot operation structures located on a floodplain or within a floodway of a river or stream may be required to obtain ~~DNR~~ department permits and provide protection from inundation by flood waters, as specified in 567—Chapters 71 and 72. If a proposed open feedlot operation structure is located in alluvial soils, then a floodplain determination or floodway elevation shall be requested from the department. The AFO Siting Atlas may be a tool used to assist in the floodplain and alluvial soil determinations.

b. Permits for dam construction. Open feedlot operation structures exceeding storage capacity or dam height thresholds may be required to obtain ~~DNR~~ department permits, as specified in 567—71.3(455B) and 567—72.3(455B).

65.109(7) and **65.109(8)** No change.

65.109(9) *Unformed basins containing confinement manure and open feedlot effluent.* Unformed basins containing confinement manure and open feedlot effluent shall meet the confinement construction

standards and separation distance requirements provided in Division I of this chapter. The unformed basin design shall ensure adequate storage for two feet of freeboard plus the open feedlot effluent resulting from a 25-year, 24-hour precipitation event. The unformed basin shall contain the annual manure generated from all confinement animals.

ITEM 68. Amend subrule 65.110(5), introductory paragraph, as follows:

65.110(5) *Hydrology—groundwater table.* For purposes of this rule, groundwater table is the seasonal high-water table determined by a professional engineer, a groundwater professional certified pursuant to 567—Chapter 134, or qualified staff from the department or ~~Natural Resources Conservation Service (NRCS)~~ NRCS. If a construction permit is required, the department must approve the groundwater table determination.

ITEM 69. Amend rule 567—65.111(459A) as follows:

567—65.111(459A) Construction certification.

65.111(1) The owner of an open feedlot operation who is issued a construction permit for a settled open feedlot effluent basin or AT system as provided in rule 567—65.105(459A) ~~on or after July 1, 2005,~~ shall submit to the department a construction certification from a professional engineer certifying all of the following:

a. The settled open feedlot effluent basin or AT system was constructed in accordance with the design plans submitted to the department as part of an application for a construction permit pursuant to rule 567—65.107(459A). If the actual construction deviates from the approved design plans, the construction certification shall identify all changes and certify that the changes were consistent with all applicable standards of these rules.

b. The settled open feedlot effluent basin or AT system was inspected by the professional engineer after completion of construction and before commencement of operation.

65.111(2) No change.

ITEM 70. Amend rule 567—65.112(459A) as follows:

567—65.112(459A) Nutrient management plan requirements.

65.112(1) The owner of an open feedlot operation which has an animal unit capacity of 1,000 animal units or more or which is required to be issued an NPDES permit shall develop and implement a nutrient management plan meeting the requirements of this rule. The owner of an open feedlot operation that seeks to obtain or is required to be issued an NPDES permit ~~after December 31, 2006,~~ shall develop and implement a nutrient management plan meeting the requirements of this rule no later than the date on which the NPDES permit becomes effective. For the purpose of this rule, requirements pertaining to open feedlot effluent also apply to settled open feedlot effluent and settleable solids.

65.112(2) to **65.112(7)** No change.

65.112(8) ~~A~~ Except as provided in 65.112(8)*"f,"* a nutrient management plan shall include all of the following:

a. No change.

b. Information relating to the application of the manure, process wastewater and open feedlot effluent, including all of the following:

(1) Nutrient ~~levels~~ concentration of the manure, process wastewater and open feedlot effluent.

(2) No change.

c. If the application is on land other than land owned or rented for crop production by the owner of the open feedlot operation, the plan shall include a copy of each written agreement executed by the owner of the open feedlot operation and the landowner or the person renting the land for crop production where the manure, process wastewater or open feedlot effluent may be applied. The written agreement shall indicate the number of acres on which the manure, process wastewater or effluent may be applied and the length of the agreement.

d. and *e.* No change.

f. Sales of scraped solids or settleable solids licensed by the Iowa department of agriculture and land stewardship (IDALS). Open feedlot operations that will sell scraped solids or settleable solids as a bulk dry animal nutrient product under Iowa Code chapter 200A as regulated by IDALS may, in lieu of complying with this subrule for that portion of open feedlot effluent, submit to the department a copy of the operation's site-specific IDALS license or documentation for any scraped solids or settleable solids that will be sold pursuant to Iowa Code chapter 200A, along with the department-approved nutrient management plan form for sales of scraped solids or settleable solids.

g. An open feedlot operation must submit a complete nutrient management plan using a new phosphorus index, including soil sampling as required in subrule 65.17(16), for each field in the nutrient management plan a minimum of once every five years, submitting the plan with the NPDES permit renewal application if the open feedlot operation has an NPDES permit.

65.112(9) No change.

65.112(10) Current nutrient management plan, record keeping and inspections.

a. No change.

b. Record keeping. Records shall be maintained by the owner of ~~a~~ an open feedlot operation who is required to submit a nutrient management plan. This recorded information shall be maintained for five years following the year of application or for the length of the crop rotation, whichever is greater. Records shall be maintained at the site of the open feedlot operation and shall be made available to the department upon request. Records to demonstrate compliance with the nutrient management plan shall include the following:

(1) to (7) No change.

c. No change.

~~**65.112(11)** Settled open feedlot effluent on land planted to soybeans. Effective May 14, 2013, the owner of an open feedlot operation that is required to submit a nutrient management plan shall not apply liquid manure, process wastewater or settled open feedlot effluent to land that is currently planted to soybeans or to land where the current crop has been harvested that will be planted to soybeans the next crop season. Not later than November 14, 2012, the commission shall review the available scientific evidence and determine whether any further or alternative action is necessary. The prohibition on applying liquid manure, process wastewater or settled open feedlot effluent shall not become effective unless the commission publishes a notice in the Iowa Administrative Bulletin confirming that it has reviewed the available scientific evidence and that the prohibition shall take effect on May 14, 2013.~~

ITEM 71. Amend rule 567—65.113(459A) as follows:

567—65.113(459A) Complaint investigations. Complaints of violations of Iowa Code chapter 455B, ~~or~~ 459, ~~or 2005 Iowa Code Supplement chapter~~ 459A, or 459B or these rules, which are received by the department or are forwarded to the department by a county, following a county board of supervisors' determination that a complainant's allegation constitutes a violation, shall be investigated by the department if it is determined that the complaint is legally sufficient and an investigation is justified.

65.113(1) No change.

65.113(2) A complaint is legally sufficient if it contains adequate information to investigate the complaint and if the allegation constitutes a violation, without an investigation of whether the facts supporting the allegation are true or untrue, of department rules, Iowa Code chapter 455B, ~~or~~ 459, ~~or 2005 Iowa Code Supplement chapter~~ 459A, or 459B or environmental standards in regulations subject to federal law and enforced by the department.

65.113(3) to **65.113(8)** No change.

65.113(9) When a person who is a department official, an agent of the department, or a person accompanying the department official or agent enters the premises of an open feedlot operation, both of the following shall apply:

a. The person may enter at any reasonable time in and upon any private or public property to investigate any actual or possible violation of Iowa Code chapter 455B, ~~or~~ 459, ~~or 2005 Iowa Code Supplement chapter~~ 459A, or 459B or these rules. However, the owner or person in charge shall be notified.

(1) to (4) No change.

b. No change.

ITEM 72. Reserve rules **567—65.115** to **567—65.199** in Division II.

ITEM 73. Adopt the following **new** rules 567—65.200(459,459A) to 567—65.210(459,459A) and Division III title:

DIVISION III
ANIMAL TRUCK WASH FACILITIES

567—65.200(459,459A) Definitions and incorporation by reference. In addition to the definitions in Iowa Code sections 455B.101, 455B.171 and 459A.102, the following definitions shall apply to Division III of this chapter.

65.200(1) *Definitions.*

"Animal feeding operation" or *"AFO"* means a lot, yard, corral, building, or other area in which animals are confined and fed and maintained for 45 days or more in any 12-month period, and all structures used for the storage of manure from animals in the operation. Except as required for an NPDES permit required pursuant to the Act, an animal feeding operation does not include a livestock market.

"Animal truck wash effluent" means a combination of manure, washwater-induced runoff, or other runoff derived from an animal truck wash facility, which may include solids. Animal truck wash effluent shall not exceed the following metal concentrations: aluminum 10 mg/L, copper 0.4 mg/L, and iron 10 mg/L.

"Animal truck wash effluent structure" means an impoundment which is part of an animal truck wash facility, if the primary function of the impoundment is to collect and store animal truck wash effluent.

"Animal truck wash facility" means an operation engaged solely in washing single-unit trucks, truck-tractors, semitrailers, or trailers used to transport animals. An animal truck wash facility is considered to be part of an animal feeding operation if the animal truck wash facility and the animal feeding operation are under common ownership or management and the animal truck wash facility is located within 1,250 feet of the animal feeding operation.

"Common management" means significant control by an individual of the management of the day-to-day operations of two or more animal truck wash facilities or an animal truck wash facility and an animal feeding operation. "Common management" does not include control over a contract livestock facility by a contractor as defined in Iowa Code section 202.1.

"Formed animal truck wash effluent structure" means a covered or uncovered impoundment used to store effluent from an animal truck wash facility, which has walls and a floor constructed of concrete, concrete block, wood, steel, or similar materials.

"Karst terrain" means land having karst formations that exhibit surface and subterranean features of a type produced by the dissolution of limestone, dolomite, or other soluble rock and characterized by closed depressions, sinkholes, losing streams, or caves. If a 25-foot vertical separation distance can be maintained between the bottom of an animal truck wash facility and limestone, dolomite, or other soluble rock, then the structure is not considered to be in karst terrain.

"Manure" means animal excreta or other commonly associated wastes of animals including, but not limited to, bedding, compost, litter, feed losses, raw materials or other materials commingled with manure or set aside for disposal. If a manure storage structure or animal truck wash effluent structure contains both manure from a confinement feeding operation and animal truck wash effluent from an animal truck wash facility, the effluent shall be deemed to be manure.

"Manure storage structure" means a formed manure storage structure, an unformed manure storage structure or a dry bedded manure storage structure. A manure storage structure does not include an egg washwater storage structure. An animal truck wash facility may be part of a confinement feeding operation. An animal truck wash effluent structure may be the same as a manure storage structure that is part of the confinement feeding operation, so long as the primary function of such impoundment is to collect and store both effluent from the animal truck wash facility and manure from the confinement feeding operation.

"Nutrient management plan" or *"NMP"* means a plan which provides for the management of animal truck wash effluent, including the application of effluent, as provided in 567—65.208(459A).

"Open feedlot effluent" means a combination of manure, precipitation-induced runoff, or other runoff from an open feedlot before its settleable solids have been removed. If an open feedlot operation structure or animal truck wash effluent structure contains effluent from both an open feedlot operation and an animal truck wash facility, the animal truck wash effluent shall be deemed to be open feedlot effluent.

"Owner" means the person who has title to the property where the animal truck wash facility is located or the person who has title to the animal truck wash effluent structure which is part of an animal truck wash facility. "Owner" does not include a person who has a lease to use the land where the animal truck wash facility is located or to use the animal truck wash effluent structure which is part of an animal truck wash facility.

"Release" means an actual, imminent or probable discharge of process wastewater, manure, animal truck wash effluent, or settleable solids from an animal truck wash facility to surface water, groundwater, or an actual, imminent or probable discharge directly to a drainage tile line or intake resulting from storing, handling, transporting or land-applying process wastewater, manure, animal truck wash effluent or settleable solids.

"Settleable solids," "scraped solids," or *"solids"* mean that portion of animal truck wash effluent that meets all the following requirements:

1. The solids do not flow perceptibly under pressure.
2. The solids are not capable of being transported through a mechanical pumping device designed to move a liquid.
3. The constituent molecules of the solids do not flow freely among themselves but do show the tendency to separate under stress.

"Settled open feedlot effluent basin" or *"runoff control basin"* means a covered or uncovered impoundment which is part of an open feedlot operation, if the primary function of the impoundment is to collect and store settled open feedlot effluent. An animal truck wash facility may be part of an open feedlot operation. An animal truck wash effluent structure may be the same as a settled open feedlot effluent basin that is part of the open feedlot operation, so long as the primary function of such impoundment is to collect and store effluent from both the animal truck wash facility and the open feedlot operation.

"Small animal truck wash facility" means an animal truck wash facility, if all of the following apply:

1. The animal truck wash facility and all single-unit trucks, truck-tractors, semitrailers, or trailers that are washed at the facility are owned by the same person; and
2. The average total per-day volume of washwater used by the animal truck wash facility does not exceed 2,000 gallons as calculated on a monthly basis.

"Stockpile" means any accumulation of manure, scraped solids, settleable solids or combination of manure and solids located outside of the animal truck wash facility or outside of an area that drains to an animal truck wash facility, where the scraped manure or solids are stored for less than six months.

"Unformed animal truck wash effluent structure" means a covered or uncovered impoundment used to store animal truck wash effluent, other than a formed animal truck wash effluent structure.

"Water of the state" means any stream, lake, pond, marsh, watercourse, waterway, well, spring, reservoir, aquifer, irrigation system, drainage system, and any other body or accumulation of water, surface or underground, natural or artificial, public or private, which are contained within, flow through or border upon the state or any portion thereof.

65.200(2) *Incorporation by reference.* The text of the following incorporated materials is not included in Division III of this chapter. The materials listed below are hereby made a part of Division III of this chapter. For material subject to change, only the specific version specified in this subrule is incorporated. Any amendment or revision to a reference document is not incorporated until this subrule has been amended to specify the new version.

a. "Act" means the federal Water Pollution Control Act as amended through January 1, 2015, 33 U.S.C. Chapter 26;

b. *"AFO Siting Atlas"* means a tool to assist in determining potential building sites that meet regulatory requirements. The AFO Siting Atlas is located on the department's Web site;

c. *"CFR"* or *"Code of Federal Regulations"* means the federal administrative rules adopted by the United States in effect as of January 1, 2015;

d. Designated Wetlands in Iowa – effective date August 23, 2006, located on the department's Web site; and

e. Spill line telephone number is (515)725-8694.

567—65.201(459A) Minimum animal truck wash effluent control requirements and reporting of releases. An animal truck wash facility shall provide for the management of manure, process wastewater, settleable solids, scraped solids, and animal truck wash effluent by using the control method as provided in subrules 65.201(1) to 65.201(4). A release shall be reported to the department as provided in subrule 65.201(5).

65.201(1) No direct discharge of animal truck wash effluent shall be allowed from an animal truck wash facility into a publicly owned lake, a known sinkhole, or an agricultural drainage well.

65.201(2) Land application.

a. *General requirements.* Animal truck wash effluent shall be land-applied in a manner which will not cause pollution of surface water or groundwater. Land application of animal truck wash effluent shall not exceed one inch per hour, and land application shall cease immediately if runoff occurs. Land application of animal truck wash effluent shall be conducted on days when weather and soil conditions are suitable. Weather and soil conditions are normally considered suitable for animal truck wash effluent application if: (1) land application areas are not frozen or snow-covered; (2) temperatures during application are greater than 32 degrees Fahrenheit; and (3) precipitation has not exceeded the water holding capacity of the soil to accept the effluent application without the possibility of runoff. Application in accordance with the provisions of state law and the rules in this chapter shall be deemed as compliance with this requirement.

b. *Separation distances.* A person shall not apply animal truck wash effluent on land located within 750 feet from a residence not owned by the titleholder of the land, unless one of the following apply:

(1) The animal truck wash effluent is land-applied by injection or incorporation on the same date as the animal truck wash effluent was land-applied.

(2) The titleholder of the land benefiting from the separation distance requirement executes a written waiver with the titleholder of the land where the animal truck wash effluent is applied.

(3) The animal truck wash effluent is from a small animal truck wash facility or an animal truck wash facility that is part of a small animal feeding operation.

65.201(3) The owner of an animal truck wash facility who discontinues the use of the facility shall remove and land-apply in accordance with state law all manure, process wastewater and animal truck wash effluent from the animal truck wash effluent structures as soon as practical but not later than six months following the date the animal truck wash facility is discontinued.

65.201(4) Stockpiling of scraped solids and settleable solids. Stockpiles of solids scraped from animal truck wash facilities and stockpiles of settleable solids shall comply with the following requirements:

a. Stockpiles must be land-applied in accordance with subrule 65.201(2) as soon as possible but not later than six months after they are established.

b. Stockpiles shall not be located within 400 feet from a designated area or, in the case of a high-quality water resource, within 800 feet.

c. Stockpiles shall not be located in grassed waterways or areas where water ponds or has concentrated flow.

d. Stockpiles shall not be located within 200 feet of a terrace tile inlet or surface tile inlet or known sinkhole unless the stockpile is located so that any runoff from the stockpile will not reach the inlet or sinkhole.

e. Stockpiles shall not be located on land having a slope of more than 3 percent unless methods, structures or practices are implemented to contain the stockpiled solids, including but not limited to hay bales, silt fences, temporary earthen berms, or other effective measures, and to prevent or diminish precipitation-induced runoff from the stockpiled solids.

65.201(5) A release, as defined in rule 567—65.200(459,459A), shall be reported to the department as provided in this subrule. This subrule does not apply to the land application of manure, process wastewater, animal truck wash effluent, scraped solids, or settleable solids in compliance with these rules.

a. Notification. A person storing, handling, transporting, or land-applying manure, process wastewater, animal truck wash effluent, scraped solids, or settleable solids from an animal truck wash facility who becomes aware of a release shall notify the department of the occurrence of release as soon as possible but not later than six hours after the onset or discovery of the release by contacting the department's spill line. The local police department or the office of the sheriff of the affected county shall also be contacted within the same time period if the release involves a public roadway and public safety could be threatened. Reports made pursuant to this rule shall be confirmed in writing as provided in 65.201(5)*"c."*

b. Verbal report. The verbal report of such a release should provide information on as many items listed in 65.201(5)*"c"* as available information will allow.

c. Written report. The written report of a release shall be submitted at the request of the department within 30 days after the verbal report of the release and contain at a minimum the following information:

(1) The approximate location of the alleged release (including at a minimum the quarter-quarter section, township and county in which the release occurred or was discovered).

(2) The time and date of onset of the alleged release, if known, and the time and date of the discovery of the alleged release.

(3) The time and date of the verbal report to the department of the release.

(4) The name, mailing address and telephone number of the person reporting the release.

(5) The name, mailing address and telephone number of any other person with knowledge of the event who can be contacted for further information.

(6) The source of the manure, process wastewater, animal truck wash effluent, scraped solids, or settleable solids allegedly released.

(7) The estimated or known volume of manure, process wastewater, animal truck wash effluent, scraped solids, or settleable solids allegedly released.

(8) The weather conditions at the time of the onset or discovery of the release.

(9) If known, the circumstances under which the alleged release occurred or exists (e.g., overflow, storage structure breach, equipment malfunction or breakdown, land runoff).

(10) The approximate location of the nearest stream or other water body which is or could be impacted by the alleged release, and the approximate location to the alleged release of any known tile intakes or tile lines which could be a direct conveyance to a surface water or groundwater.

(11) A description of any containment or remedial measures taken to minimize the impact of the release.

(12) Any information that may assist the department in evaluating the release.

d. Reporting of subsequent findings. All subsequent findings and laboratory results should be reported and submitted in writing to the department as soon as they become available.

e. Waiver of notification requirement. A waiver from the notification requirement of paragraph *"a"* of this subrule may be granted by the department for a release to a specific drainage tile line or intake if sufficient information is provided to demonstrate that the drainage tile line or intake will not result in a discharge to a water of the state.

567—65.202(459,459A) Construction permits.

65.202(1) *Animal truck wash facilities required to obtain a construction permit.* An animal truck wash facility must obtain a construction permit prior to any of the following:

a. Constructing or expanding an animal truck wash effluent structure.

b. When the department has previously issued the animal truck wash facility a construction permit and the volume of the animal truck wash effluent would be more than the volume approved by the department in the previous construction permit.

c. When the animal truck wash facility is part of a confinement feeding operation and all of the following apply:

(1) The department has issued a construction permit or an NPDES permit for the confinement feeding operation or a letter approving a construction design statement for the confinement feeding operation in lieu of a construction permit.

(2) The animal truck wash effluent will be added to an existing manure storage structure resulting in a total stored volume greater than that approved in the construction permit or the construction design statement approval letter.

d. When the animal truck wash facility is part of an open feedlot operation and all of the following apply:

(1) The department has issued a construction permit or an NPDES permit for an open feedlot operation.

(2) The animal truck wash effluent will be added to an existing settled open feedlot effluent basin resulting in a total stored volume greater than that approved in the construction permit or NPDES permit.

e. When an animal truck wash facility is constructed or expanded as part of a small animal feeding operation that includes a manure storage structure and the animal truck wash effluent will be added to the manure storage structure.

65.202(2) *When a construction permit for an animal truck wash facility is not required.*

a. When a small animal truck wash facility is constructed or expanded.

b. When a small animal truck wash facility is part of a small animal feeding operation and the animal truck wash effluent is added to the manure storage structure.

65.202(3) *Construction permit applications that cannot be approved.* The department shall not approve an application for a construction permit unless the applicant submits all of the following:

a. A nutrient management plan as provided in rule 567—65.208(459A).

b. An engineering report, construction plans, and specifications prepared by a professional engineer or NRCS certifying that the design of the animal truck wash effluent structure complies with the construction design standards required in Division III of this chapter.

65.202(4) *Plan review criteria; time for approval or disapproval.*

a. Plan review criteria. Review of plans and specifications shall be conducted by the department to determine the potential of the animal truck wash effluent structure to achieve the level of control being required of the animal truck wash facility. Applicable criteria contained in federal law, state law, these rules, NRCS design standards and specifications unless inconsistent with federal or state law or these rules will be used in this review. If the proposed facility plans are not adequately covered by these criteria, applicable criteria contained in current technical literature shall be used.

b. Time for approval or disapproval. The department shall approve or disapprove an application for a construction permit within 60 days after receiving the permit application. However, the applicant may deliver a notice requesting a continuance. Upon receipt of a notice, the time required for the department to act upon the application shall be suspended for the period provided in the notice, but for not more than 30 days after the department's receipt of the notice. The applicant may submit more than one notice. If review of the application is delayed because the application is incomplete, and the applicant fails to supply requested information within a reasonable time prior to the deadline for action on the application, the permit may be denied and a new application will be required if the applicant wishes to proceed. The department may also provide for a continuance when it considers the application. The department shall provide notice to the applicant of the continuance. The time required for the department to act upon the application shall be suspended for the period provided in the notice, but for not more than 30 days. However, the department shall not provide for more than one continuance.

65.202(5) *Expiration of construction permits.* The construction permit shall expire if construction, as defined in rule 567—65.203(459A), is not begun within one year and completed within three years of

the date of issuance. The director may grant an extension of time to begin or complete construction if it is necessary or justified, upon showing of such necessity or justification to the director.

65.202(6) *Revocation of construction permits.* The department may suspend or revoke a construction permit, modify the terms or conditions of a construction permit, or refuse to renew a construction permit expiring according to subrule 65.202(5) if it determines that the operation of the animal truck wash facility constitutes a clear, present and impending danger to public health or the environment.

65.202(7) *Permit prior to construction.* An applicant for a construction permit shall notify the department prior to the start of construction for any animal truck wash facility. The applicant shall not begin construction of an animal truck wash facility until the person has been granted a permit for the construction by the department.

567—65.203(459A) Construction. For purposes of these rules:

65.203(1) Construction of an animal truck wash facility begins or an animal truck wash facility is constructed when any of the following occur:

a. Excavation commences for a proposed animal truck wash facility or proposed expansion of an existing animal truck wash facility structure.

b. Installation of forms for concrete for a proposed animal truck wash facility or the proposed expansion of an existing animal truck wash facility.

c. Installation of piping for movement of animal truck wash effluent within or between animal truck wash facilities as proposed or proposed to be expanded.

65.203(2) Construction does not begin upon occurrence of any of the following:

a. Removal of trees, brush, or other vegetative growth.

b. Construction of driveways or roads.

c. General earth moving for leveling at the site.

d. Installation of temporary utility services.

65.203(3) Separation distances for the construction or expansion of an animal truck wash effluent structure.

a. An animal truck wash effluent structure shall not be constructed or expanded within 1,250 feet from a residence not owned by the titleholder of the animal truck wash facility, a commercial enterprise, a bona fide religious institution, an educational institution, or a public use area.

b. An animal truck wash effluent structure shall not be constructed or expanded within 100 feet from a public thoroughfare.

c. Any separation distance required for a confinement feeding operation structure and a location or object specified in Table 6 for "Water Wells" and "Other Distances" at the end of this chapter shall also apply to the animal truck wash effluent structure and that same location or object.

d. An animal truck wash effluent structure shall not be constructed or expanded on land that is part of a one hundred year floodplain.

65.203(4) Exemptions to separation distances for the construction or expansion of an animal truck wash effluent structure.

a. Paragraph 65.203(3)*"a"* does not apply if a residence, educational institution, a bona fide religious institution, or commercial enterprise was constructed or expanded, or if the boundaries of a public use area were expanded, after the date that the animal truck wash facility was established. The date the animal truck wash facility was established is the date on which the animal truck wash facility commenced operating. A change in ownership or expansion of an animal truck wash facility shall not change the date of operation.

b. Paragraphs 65.203(3)*"a"* and *"b"* do not apply if the titleholder of the land benefiting from the separation distance requirement, including a person authorized by the titleholder, executes a written waiver with the owner of the animal truck wash effluent structure. The structure shall be constructed or expanded under such terms and conditions that the parties negotiate. The state or a political subdivision constructing or maintaining the public thoroughfare benefiting from the separation distance requirement may execute a written waiver with the titleholder of the land where the structure is located. The structure

shall be constructed or expanded under such terms and conditions that the parties negotiate. The waiver shall be specific to the construction or expansion project for which it is submitted. The waiver may include specific language to include future projects or expansions.

c. Paragraphs 65.203(3)*"a"* and *"b"* shall not apply to small animal truck wash facilities.

d. Exemptions to separation distance requirements from water sources, major water sources, known sinkholes, agricultural drainage wells and designated wetlands and secondary containment.

As specified in Iowa Code section 459.310(3), the separation distance required from surface intakes, wellheads or cisterns of agricultural drainage wells, known sinkholes, water sources, major water sources and designated wetlands, specified in Iowa Code section 459.310 and summarized in Tables 6 to 6d at the end of this chapter, shall not apply to a farm pond or privately owned lake as defined in Iowa Code section 462A.2 or to an animal truck wash effluent structure constructed with a secondary containment barrier according to subrule 65.15(17). To qualify for this separation distance exemption, the design of the secondary containment barrier shall be filed in accordance with subrule 65.9(8) prior to beginning construction of the animal truck wash facility.

e. Paragraphs 65.203(3)*"c"* and *"d"* shall not apply to the replacement of an unformed animal truck wash effluent structure constructed prior to April 28, 2003, with a formed animal truck wash effluent structure. The capacity of a replacement animal truck wash effluent structure shall not exceed the amount required to store animal truck wash effluent for any 18-month period.

567—65.204(459A) Construction permit application. An animal truck wash facility required to obtain a construction permit in accordance with the provisions of 65.202(1) shall apply for the construction permit at least 90 days before the date that construction, installation, or modification is scheduled to start.

65.204(1) Conceptual design. Prior to submitting an application for a construction permit, the applicant may submit a conceptual design and site investigation report to the department for review and comment.

65.204(2) Application for a construction permit for an animal truck wash facility shall be made on a form provided by the department. The application shall include all of the information necessary to enable the department to determine the potential of the proposed animal truck wash effluent structure to achieve the level of control required of the animal truck wash facility. A construction permit application shall include the following:

a. The name of the animal truck wash facility and the name of the owner of the animal truck wash facility, including the owner's mailing address and telephone number.

b. The name of the contact person for the animal truck wash facility, including the person's mailing address and telephone number.

c. The location of the animal truck wash facility.

d. A statement providing that the application is for any of the following:

(1) The construction or expansion of an animal truck wash effluent structure for an existing animal truck wash facility which is not expanding;

(2) The construction or expansion of an animal truck wash effluent structure for an existing animal truck wash facility which is expanding;

(3) The construction of an animal truck wash effluent structure for a proposed new animal truck wash facility.

e. An engineering report, construction plans, and specifications prepared by a professional engineer or by NRCS personnel.

(1) The engineering report must demonstrate that the storage capacity of the animal truck wash effluent structure is equal to or greater than the amount of effluent to be stored for any six-month period, in addition to two feet of freeboard for an unformed animal truck wash effluent structure or one foot of freeboard for a formed animal truck wash effluent structure.

(2) If an animal truck wash effluent structure is to be constructed on karst terrain, the engineering report must establish that the construction complies with the requirements of Iowa Code section 459A.404.

f. A report on the soil and hydrogeologic information for the site, as described in subrule 65.206(2).

g. Information including, but not limited to, maps, drawings and aerial photos that clearly show the location of all the following:

(1) The animal truck wash facility and all existing and proposed animal truck wash effluent structures.

(2) Any animal truck wash facility under common ownership or common management and located within 1,250 feet of the animal truck wash facility.

(3) Any public water supply system as defined in Iowa Code section 455B.171 or drinking water well which is located less than the distance from the animal truck wash facility required by rule 567—65.205(459A). Information shall also be provided as to whether the proposed animal truck wash effluent structure will meet all applicable separation distances.

567—65.205(459A) Water well separation distances for animal truck wash facilities.

65.205(1) *Unformed animal truck wash effluent structures.* Unformed animal truck wash effluent structures shall be separated from water wells as follows:

a. Public wells. 1,000 feet from shallow wells and 400 feet from deep wells;

b. Private wells. 400 feet from both shallow wells and deep wells.

65.205(2) *Formed animal truck wash effluent structures.* Formed animal truck wash effluent structures shall be separated from water wells as follows: for both public wells and private wells, 200 feet from shallow wells and 100 feet from deep wells.

65.205(3) *Variances.* Variances to this rule may be granted by the director if the petitioner complies with the procedures and criteria in 561—Chapter 10 and provides an alternative that is substantially equivalent to the rule or provides improved effectiveness or protection as required by the rule. Petition for a variance shall be made in writing at the time the construction permit application is submitted. The denial of a variance may be appealed to the commission.

567—65.206(459A) Unformed animal truck wash effluent structure—investigation, design and construction requirements. An unformed animal truck wash effluent structure required to be constructed pursuant to a construction permit issued pursuant to Iowa Code section 459A.205 shall meet the design and construction requirements set forth in this rule.

65.206(1) *Drainage tile investigation and removal.* Prior to constructing an unformed animal truck wash effluent structure, the owner of the animal truck wash facility shall investigate the site for the animal truck wash effluent structure for a drainage tile line. The investigation shall be made by digging a core trench to a depth of at least six feet from ground level at the projected center of the berm of the animal truck wash effluent structure. A written record of the investigation shall be submitted as part of the construction certification required in 567—65.207(459A). If a drainage tile line is discovered, one of the following solutions shall be implemented:

a. The drainage tile line shall be rerouted around the perimeter of the unformed animal truck wash effluent structure at a distance of at least 25 feet horizontally separated from the outside toe of the berm of the unformed animal truck wash effluent structure. For an area of the unformed animal truck wash effluent structure where there is not a berm, the drainage tile line shall be rerouted at least 50 feet horizontally separated from the edge of the unformed animal truck wash effluent structure.

b. The drainage tile line shall be replaced with a nonperforated tile line under the unformed animal truck wash effluent structure floor. The nonperforated tile line shall be continuous and without connecting joints. There must be a minimum of three feet between the nonperforated tile line and the unformed animal truck wash effluent structure floor.

65.206(2) *Soils and hydrogeologic report.* An unformed animal truck wash effluent structure required to be constructed pursuant to a construction permit issued pursuant to rule 567—65.202(459A) shall meet design standards as required by a soils and hydrogeologic report. The report shall be submitted with the construction permit application as provided in rule 567—65.204(459A). The report shall include all of the following:

a. A description of the steps taken to determine the soils and hydrogeologic conditions at the proposed construction site, a description of the geologic units encountered, and a description of the effects of the soil and groundwater elevation and direction of flow on the construction and operation of the unformed animal truck wash effluent structure.

b. The subsurface soil classification of the site. A subsurface soil classification shall be based on ASTM international designation D 2487-92 or D 2488-90.

c. The results of a soils investigation conducted at a minimum of three locations within the area of the unformed animal truck wash effluent structure reflecting the continuous soil profile existing within the area of the unformed animal truck wash effluent structure. The soils investigation results shall be used in determining subsurface soil characteristics and groundwater elevation and direction of flow at the proposed site. The soils investigation shall be conducted and utilized as follows:

(1) By a qualified person ordinarily engaged in the practice of performing soils investigations.

(2) At locations that reflect the continuous soil profile conditions existing within the area of the proposed unformed animal truck wash effluent structure, including conditions found near the corners and the deepest point of the proposed unformed animal truck wash effluent structure. The soils investigation shall be conducted to a minimum depth of ten feet below the proposed bottom elevation of the unformed animal truck wash effluent structure.

(3) By methods which identify the continuous soil profile and do not result in mixing of soil layers. Soil corings using hollow-stem augers and other suitable methods may be used.

(4) If located in karst terrain or potential karst terrain, at least one soil coring shall be taken to a minimum depth of 25 feet below the bottom elevation of the unformed animal truck wash effluent structure or into bedrock, whichever is shallower.

(5) Soil corings may be used to determine current groundwater levels by completing the corings as temporary monitoring wells as provided in 65.206(3)*"a"*(1) and measuring the water levels in these wells no earlier than seven days after installation as provided in 65.206(3)*"a"*(2).

(6) Upon abandonment of soil core holes, all soil core holes, including those developed as temporary water level monitoring wells, shall be plugged with concrete, Portland cement concrete grout, bentonite, or similar materials.

(7) If excavation methods are used in conducting the soils investigation, upon closure these excavations must be filled with suitable materials and adequately compacted to ensure they will not compromise the integrity of the unformed animal truck wash effluent structure liner.

65.206(3) *Hydrology.*

a. Determination of groundwater table. For purposes of this rule, the groundwater table is the seasonal high-water table determined by a professional engineer, a groundwater professional certified pursuant to 567—Chapter 134, or qualified staff from the department or NRCS. If a construction permit is required, the department must approve the groundwater table determination.

(1) Current groundwater levels shall be measured as provided in this subparagraph for an unformed animal truck wash effluent structure. Three temporary monitoring wells shall be installed. The top of the well screen shall be within five feet of the ground surface. Each well shall be extended to at least two feet below the proposed top of the liner of an unformed animal truck wash effluent structure or to at least two feet below the proposed bottom of the footings of a formed animal truck wash effluent structure. In addition, the wells must be installed as follows:

1. Unformed animal truck wash effluent structure. For an unformed animal truck wash effluent structure, the monitoring wells may be installed in the soil core holes developed as part of conducting the soils investigation required in paragraph 65.206(2)*"c."*

2. Formed animal truck wash effluent structure. For a formed animal truck wash effluent structure, at least three temporary monitoring wells shall be installed as close as possible to three corners of the structure, with one of the wells close to the corner of deepest excavation. If the formed animal truck wash effluent structure is circular, the three monitoring wells shall be equally spaced and one well shall be placed at the point of deepest excavation.

(2) The seasonal high-water table shall be determined by considering all relevant data, including the groundwater levels measured in the temporary monitoring wells not earlier than seven days following

installation, NRCS soil survey information, soil characteristics such as color and mottling, other existing water table data, and other pertinent information. If a drainage system for artificially lowering the groundwater table will be installed in accordance with the requirements of paragraph 65.206(3)*"c,"* the level to which the groundwater table will be lowered will be considered to represent the seasonal high-water table.

b. The unformed animal truck wash effluent structure shall be constructed with a minimum separation of two feet between the top of the liner of the unformed animal truck wash effluent structure and the seasonal high-water table.

c. If a drainage tile line around the perimeter of the basin is installed a minimum of two feet below the top of the unformed animal truck wash effluent structure liner to artificially lower the seasonal high-water table, the top of the unformed animal truck wash effluent structure's liner may be a maximum of four feet below the seasonal high-water table which existed prior to installation of the perimeter tile system. The seasonal high-water table may be artificially lowered by gravity flow tile lines or other similar system. However, the following shall apply:

(1) Except as provided in subparagraph (2), an animal truck wash facility shall not use a nongravity mechanical system that uses pumping equipment.

(2) If the animal truck wash facility was constructed before July 1, 2005, the operation may continue to use its existing nongravity mechanical system that uses pumping equipment or it may construct a new nongravity mechanical system that uses pumping equipment. However, an animal truck wash facility that expands the area of its animal truck wash facility on or after April 1, 2011, shall not use a nongravity mechanical system that uses pumping equipment.

(3) Drainage tile lines may be installed to artificially lower the seasonal high-water table at an unformed animal truck wash effluent structure, if all of the following conditions are satisfied:

1. A device to allow monitoring of the water in the drainage tile lines and a device to allow shutoff of the flow in the drainage tile lines are installed, if the drainage tile lines do not have a surface outlet accessible on the property where the unformed animal truck wash effluent structure is located.

2. Drainage tile lines are installed horizontally at least 25 feet away from the outside toe of the berm of the unformed animal truck wash effluent structure. Drainage tile lines shall be placed in a vertical trench and encased in granular material which extends upward to the level of the seasonal high-water table which existed prior to installation of the perimeter tile system.

65.206(4) *Karst terrain.*

a. Construction prohibited. Unformed animal truck wash effluent structures shall not be constructed in areas which drain to known sinkholes or in karst terrain. Structure sites located within one mile of karst terrain shall be considered to be located in karst terrain, unless site-specific geologic information is submitted documenting that 25 feet of suitable materials exist between the bottom of an unformed animal truck wash effluent storage structure and carbonated bedrock or limestone or dolomite.

b. The use of formed structures is required to store animal truck wash effluent in karst terrain.

(1) Formed structures constructed of concrete in karst terrain shall comply with the provisions of 65.15(14).

(2) The use of formed structures constructed of materials other than concrete and located in areas which drain to known sinkholes or located in karst terrain may be approved by the department if the proposed structures are designed by a professional engineer, a minimum of five feet vertical separation is maintained between the structure bottom and carbonated bedrock, and the engineer certifies and provides data showing that the permeability of the geologic material below the structure's base is sufficiently low to provide an adequate barrier to prevent percolation into carbonated bedrock or groundwater.

c. Construction of an unformed animal truck wash effluent structure is allowed in areas identified as karst terrain if site-specific geologic information is submitted documenting that 25 feet of suitable materials exist between the bottom of an unformed animal truck wash effluent storage structure and carbonated bedrock or limestone or dolomite.

65.206(5) *Bedrock separation.* An unformed animal truck wash effluent structure shall be constructed with at least four feet of separation between the bottom of the unformed animal truck wash effluent structure and a bedrock formation.

65.206(6) *Floodplain requirements.*

a. Construction in floodplains. Animal truck wash facilities located on a floodplain or within a floodway of a river or stream may be required to obtain department permits and provide protection from inundation by flood waters, as specified in 567—Chapters 71 and 72. If the animal truck wash facility structure is located in alluvial soils, then a floodplain determination or floodway elevation shall be requested from the department. The AFO Siting Atlas may be a tool used to assist in the floodplain and alluvial soil determinations.

b. Permits for dam construction. Animal truck wash facility structures exceeding storage capacity or dam height thresholds may be required to obtain department permits, as specified in 567—71.3(455B) and 567—72.3(455B).

65.206(7) *Liner design and construction.* The liner of an unformed animal truck wash effluent structure shall comply with all of the following:

a. The liner shall comply with any of the following permeability standards:

(1) The liner shall be constructed to have a percolation rate that shall not exceed one-sixteenth inch per day at the design depth of the unformed animal truck wash effluent structure as determined by percolation tests conducted by the professional engineer. If a clay soil liner is used, the liner shall be constructed with a minimum thickness of 12 inches or the minimum thickness necessary to comply with the percolation rate in this subparagraph, whichever is greater.

(2) The liner shall be constructed to have a percolation rate that shall not exceed one-sixteenth inch per day at the design depth of the unformed animal truck wash effluent structure. The design of the liner will specify a moisture content, compaction requirement, and liner thickness that will comply with the maximum allowable percolation requirement and will be based on moisture content and percentage of maximum density as determined by a standard 5-point proctor test performed in accordance with ASTM D698 (Method A). The liner thickness will be based on laboratory tests of the compacted material, with a minimum liner thickness of 12 inches. Appropriate field or laboratory testing during construction shall be provided to verify the design requirements are met.

b. If a synthetic liner is used, the liner shall be installed to comply with the percolation rate required in 65.206(7)*"a"*(1).

65.206(8) *Berm erosion inspection and repair.* The owner of an animal truck wash facility using an unformed animal truck wash effluent structure shall inspect the berms of the unformed animal truck wash effluent structure at least semiannually for evidence of erosion. If the inspection reveals erosion which may impact the unformed animal truck wash effluent structure's structural stability or the integrity of the unformed animal truck wash effluent structure's liner, the owner shall repair the berms.

65.206(9) *Basins containing confinement manure and animal truck wash effluent.* Basins containing confinement manure and animal truck wash effluent shall meet the confinement construction standards and separation distance requirements provided in Division I of this chapter. The basin design shall ensure adequate storage including two feet of freeboard for an unformed animal truck wash effluent structure or one foot of freeboard for a formed animal truck wash effluent structure. The basin shall contain the annual manure generated from all confinement animals.

65.206(10) *Formed animal truck wash effluent structures.* An animal truck wash facility electing to use a formed animal truck wash effluent structure may submit, in lieu of an engineering report, a construction design statement that meets the requirements in subrule 65.9(6).

567—65.207(459A) Construction certification.

65.207(1) The owner of an animal truck wash facility who is issued a construction permit for an animal truck wash effluent structure as provided in rule 567—65.202(459A) shall submit to the department a construction certification on a form provided by the department from a professional engineer certifying all of the following:

a. The animal truck wash effluent structure was constructed in accordance with the design plans submitted to the department as part of an application for a construction permit pursuant to rule 567—65.204(459A). If the actual construction deviates from the approved design plans, the

construction certification shall identify all changes and certify that the changes were consistent with all applicable standards of these rules.

b. The animal truck wash effluent structure was inspected by the professional engineer after completion of construction and before commencement of operation.

65.207(2) A written record of an investigation for drainage tile lines, including the findings of the investigation and actions taken to comply with 65.206(1), shall be submitted as part of the construction certification.

567—65.208(459A) Nutrient management plan requirements.

65.208(1) The owner of an animal truck wash facility, other than a small animal truck wash facility, which has an animal truck wash effluent structure shall develop and implement a nutrient management plan meeting the requirements of this rule. However, an animal truck wash facility which is part of a confinement feeding operation, in lieu of submitting a nutrient management plan, may submit an original manure management plan and an updated manure management plan to the department.

65.208(2) A person shall not remove animal truck wash effluent from an animal truck wash facility for which a nutrient management plan is required under this rule, unless the department approves a nutrient management plan as required in this rule.

65.208(3) The department shall not approve an application for a permit to construct an animal truck wash effluent structure unless the owner of the animal truck wash facility applying for approval submits a nutrient management plan together with the application for the construction permit as provided in rule 567—65.202(459A).

65.208(4) If a construction permit is required as provided in rule 567—65.202(459A), the department shall approve or disapprove the nutrient management plan as part of the construction permit application. If a construction permit is not required, the department shall approve or disapprove the nutrient management plan within 60 days from the date that the department receives the nutrient management plan.

65.208(5) A nutrient management plan shall include all of the following:

a. Restrictions on the application of animal truck wash effluent based on all of the following:

(1) A phosphorus index of each field in the nutrient management plan, as required in 65.17(17), including the factors used in the calculation. A copy of the NRCS phosphorus index detailed report shall satisfy the requirement to include the factors used in the calculation. In addition, total phosphorus (as P2O5) available to be applied from the animal truck wash facility shall be included.

(2) Calculations necessary to determine the land area required for the application of animal truck wash effluent from an animal truck wash facility based on nitrogen or phosphorus use levels (as determined by the phosphorus index) in order to obtain optimum crop yields according to a crop schedule specified in the nutrient management plan, and according to requirements specified in subrule 65.17(4).

b. Information relating to the application of the animal truck wash effluent, including all of the following:

(1) Nutrient concentration of the animal truck wash effluent. Animal truck wash facilities shall provide yearly animal truck wash effluent test analysis for aluminum, copper, and iron.

(2) Application methods, the timing of the application, and the location of the land where the application occurs.

c. If the application is on land other than land owned or rented for crop production by the owner of the animal truck wash facility, the plan shall include a copy of each written agreement executed by the owner and the landowner or the person renting the land for crop production where the animal truck wash effluent may be applied. The written agreement shall indicate the number of acres on which the animal truck wash effluent may be applied and the length of the agreement.

d. An estimate of the animal truck wash effluent volume or weight produced by the animal truck wash facility.

e. Information which shows all of the following:

(1) There is adequate storage for animal truck wash effluent, including procedures to ensure proper operation and maintenance of the storage structures.

(2) Surface drainage is diverted from the animal truck wash facility.

(3) Chemicals or other contaminants handled on site are not disposed of in an animal truck wash facility that is not specifically designed to store such chemicals or contaminants.

(4) Equipment used for the land application of animal truck wash effluent must be periodically inspected for leaks.

(5) Appropriate site-specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States.

(6) Protocols for appropriate testing of animal truck wash effluent and soil.

(7) Protocols to land-apply animal truck wash effluent in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the animal truck wash effluent.

(8) Identification of specific records that will be maintained to document the implementation and management of the requirements in this subrule.

65.208(6) Current nutrient management plan, record keeping and inspections.

a. Current nutrient management plan. The owner of an animal truck wash facility who is required to submit a nutrient management plan shall maintain a current nutrient management plan at the site of the animal truck wash facility and shall make the current nutrient management plan available to the department upon request. If nutrient management practices change, a person required to submit a nutrient management plan shall make appropriate changes consistent with this rule. If values other than the standard table values are used for nutrient management plan calculations, the source of the values used shall be identified.

b. Record keeping. Records shall be maintained by the owner of an animal truck wash facility who is required to submit a nutrient management plan. This recorded information shall be maintained for five years following the year of application or for the length of the crop rotation, whichever is greater. Records shall be maintained at the site of the animal truck wash facility and shall be made available to the department upon request. Records to demonstrate compliance with the nutrient management plan shall include the following:

(1) Factors used to calculate the animal truck wash effluent application rate:

1. Optimum yield for the planned crop.
2. Types of nitrogen credits and amounts.
3. Remaining crop nitrogen needed.
4. Nitrogen content and first-year nitrogen availability of the animal truck wash effluent.
5. Phosphorus content of the animal truck wash effluent as required in 65.17(3)*"i"*(1) and (2). If an actual sample is used, documentation shall be provided.
6. For animal truck wash facilities, the soil test analysis must include phosphorus, aluminum, copper and iron. The yearly effluent analysis for animal truck wash facilities shall include metals testing.

(2) If phosphorus-based application rates are used, the following shall be included:

1. Crop rotation.
2. Phosphorus removed by crop harvest of that crop rotation.

(3) Maximum allowable animal truck wash effluent application rate.

(4) Actual animal truck wash effluent application information:

1. Method(s) of application when animal truck wash effluent from the animal truck wash facility was applied.
2. Date(s) when the animal truck wash effluent from the animal truck wash facility was applied.
3. Weather conditions at the time of application and for 24 hours prior to and following the application.
4. Location of the field where the animal truck effluent from the animal truck wash facility was applied, including the number of acres.
5. The animal truck wash effluent application rate.
6. Dates when application equipment was inspected.

(5) Date(s) and application rate(s) of commercial nitrogen and phosphorus on fields that received animal truck wash effluent. However, if the date and application rate information is for fields which are not owned for crop production or which are not rented or leased for crop production by the person required to keep records pursuant to this subrule, an enforcement action for noncompliance with a nutrient management plan or the requirements of this subrule shall not be pursued against the person required to keep records pursuant to this subrule or against any other person who relied on the date and application rate in records required to be kept pursuant to this subrule, unless that person knew or should have known that nitrogen or phosphorus would be applied in excess of maximum levels set forth in paragraph 65.17(1)*"a."* If nutrients are applied to fields not owned, rented or leased for crop production by the person required to keep records pursuant to this subrule, that person shall obtain from the person who owns, rents or leases those fields a statement specifying the planned commercial nitrogen and phosphorus fertilizer rates to be applied to each field receiving the nutrients.

(6) A copy of the current soil test laboratory results for each field in the nutrient management plan.

(7) All applicable records identified in 65.208(5)*"e."*

c. Record inspection. The department may inspect an animal truck wash facility at any time during normal working hours and may inspect the nutrient management plan and any records required to be maintained.

567—65.209(459A) Complaint investigations. Complaints of violations of Iowa Code chapter 455B, 459, 459A, or 459B or these rules, which are received by the department or are forwarded to the department by a county, following a county board of supervisors' determination that a complainant's allegation constitutes a violation, shall be investigated by the department if it is determined that the complaint is legally sufficient and an investigation is justified.

65.209(1) If after evaluating a complaint to determine whether the allegation may constitute a violation, without investigating whether the facts supporting the allegation are true or untrue, the county board of supervisors shall forward its finding to the department director.

65.209(2) A complaint is legally sufficient if it contains adequate information to investigate the complaint and if the allegation constitutes a violation, without an investigation of whether the facts supporting the allegation are true or untrue, of department rules, Iowa Code chapter 455B, 459, 459A, or 459B, or environmental standards in regulations subject to federal law and enforced by the department.

65.209(3) The department in its discretion shall determine the urgency of the investigation, and the time and resources required to complete the investigation, based upon the circumstances of the case, including the severity of the threat to the quality of surface water or groundwater.

65.209(4) The department shall notify the complainant and the alleged violator if an investigation is not conducted specifying the reason for the decision not to conduct an investigation.

65.209(5) The department will notify the county board of supervisors where the violation is alleged to have occurred before doing a site investigation unless the department determines that a clear, present and impending danger to the public health or environment requires immediate action.

65.209(6) The county board of supervisors may designate a county employee to accompany the department on the investigation of any site as a result of a complaint.

65.209(7) A county employee accompanying the department on a site investigation has the same right of access to the site as the department official conducting the investigation during the period that the county designee accompanies the department official.

65.209(8) Upon completion of an investigation, the department shall notify the complainant of the results of the investigation, including any anticipated, pending or complete enforcement action arising from the investigation. The department shall deliver a copy of the notice to the animal truck wash facility that is the subject of the complaint, any alleged violators if different from the animal truck wash facility and the county board of supervisors of the county where the violation is alleged to have occurred.

65.209(9) When a person who is a department official, an agent of the department, or a person accompanying the department official or agent enters the premises of an animal truck wash, both of the following shall apply:

a. The person may enter at any reasonable time in and upon any private or public property to investigate any actual or possible violation of Iowa Code chapter 455B, 459, 459A, or 459B or these rules. However, the owner or person in charge shall be notified.

(1) If the owner or occupant of any property refuses admittance to the animal truck wash facility, or if prior to such refusal the director demonstrates the necessity for a warrant, the director may make application under oath or affirmation to the district court of the county in which the property is located for the issuance of a search warrant.

(2) In the application, the director shall state that an inspection of the premises is mandated by the laws of this state or that a search of certain premises, areas, or things designated in the application may result in evidence tending to reveal the existence of violations of public health, safety, or welfare requirements imposed by statutes, rules or ordinances established by the state or a political subdivision thereof. The application shall describe the area, premises, or thing to be searched, give the date of the last inspection if known, give the date and time of the proposed inspection, declare the need for such inspection, recite that notice of desire to make an inspection has been given to affected persons and that admission was refused if that be the fact, and state that the inspection has no purpose other than to carry out the purpose of the statute, ordinance, or regulation pursuant to which inspection is to be made. If an item of property is sought by the director, it shall be identified in the application.

(3) If the court is satisfied from the examination of the applicant, and of other witnesses, if any, and of the allegations of the application of the existence of the grounds of the application, or that there is probable cause to believe their existence, the court may issue such search warrant.

(4) In making inspections and searches pursuant to the authority of this rule, the director must execute the warrant:

1. Within ten days after its date.

2. In a reasonable manner, and any property seized shall be treated in accordance with the provisions of Iowa Code chapters 808, 809, and 809A.

3. Subject to any restrictions imposed by the statute, ordinance or regulation pursuant to which inspection is made.

b. The person shall comply with standard biosecurity requirements customarily required by the animal truck wash facility which are necessary in order to control the spread of disease among an animal population.

567—65.210(455B,459A) Transfer of legal responsibilities or title. If title or legal responsibility for a permitted animal truck wash facility and its animal truck wash effluent structure is transferred, the person to whom title or legal responsibility is transferred shall be subject to all terms and conditions of the permit and these rules. The person to whom the permit was issued and the person to whom title or legal responsibility is transferred shall notify the department of the transfer of legal responsibility or title of the operation within 30 days of the transfer. Within 30 days of receiving a written request from the department, the person to whom legal responsibility is transferred shall submit to the department all information needed to modify the permit to reflect the transfer of legal responsibility.

These rules are intended to implement Iowa Code chapters 455B and 459A.

ITEM 74. Amend **567—Chapter 65**, **Appendix A**, **System 1**, as follows:

SYSTEM 1: ONE OPEN FEEDLOT EFFLUENT APPLICATION PERIOD PER YEAR

MAJOR SYSTEM FEATURES. No change.

DETAILED SYSTEM REQUIREMENTS:

Open Feedlot Effluent Control System. No change.

Open Feedlot Effluent Application Requirements: Open feedlot effluent must be removed from the open feedlot effluent control system and land-applied in accordance with the following requirements:

1. No change.

2. Feedlot Runoff Control System: Accumulated open feedlot effluent shall be removed from the feedlot runoff control system and disposed of by land application at least once annually. The interval between successive application periods shall not exceed 12 months.

During application periods, land application shall be conducted at rates sufficient to ensure complete removal of accumulated open feedlot effluent from the runoff control system in ten or fewer application days. Open feedlot effluent removal is considered complete when the open feedlot effluent remaining in the runoff control system occupies less than 10 percent of the system's design open feedlot effluent storage volume.

Land application of open feedlot effluent shall be conducted on days when weather and soil conditions are suitable. Weather and soil conditions are normally considered suitable for open feedlot effluent application if:

- Land application areas are not frozen or snow-covered.

- Temperatures during application are greater than 32 degrees Fahrenheit.

- Precipitation has not exceeded ~~0.05 inch per day for each of the three days immediately preceding application and no precipitation is occurring on the day of application~~ the water-holding capacity of the soil to accept the manure application without the possibility of runoff.

ITEM 75. Amend **567—Chapter 65**, **Appendix A**, **System 2**, as follows:

SYSTEM 2: JULY AND OCTOBER OPEN FEEDLOT EFFLUENT APPLICATION

MAJOR SYSTEM FEATURES. No change.

DETAILED SYSTEM REQUIREMENTS:

Open Feedlot Effluent Control System. No change.

Open Feedlot Effluent Application Requirements: Open feedlot effluent must be removed from the open feedlot effluent control system and land-applied in accordance with the following requirements:

1. No change.

2. Feedlot Runoff Control System:

A. A feedlot operator must comply with the following open feedlot effluent application requirements if application operations are limited to the months of July and October.

During these months, land application shall be conducted at rates sufficient to ensure complete removal of accumulated open feedlot effluent from the runoff control system in ten or fewer application days. Open feedlot effluent removal is considered complete when the open feedlot effluent remaining in the runoff control system occupies less than 10 percent of the system's design open feedlot effluent storage capacity.

During July and October, open feedlot effluent application operations shall be initiated on the first day that conditions are suitable for land application of open feedlot effluent, and application must continue on subsequent days that suitable conditions exist. If unfavorable weather conditions prevent complete application of open feedlot effluent to be accomplished during July or October, application must be continued into the following month. Open feedlot effluent application operations may cease when complete application has been achieved.

Weather and soil conditions are normally considered suitable for land application of open feedlot effluent if:

- Land application areas are not frozen or snow-covered.

- Temperatures during application are greater than 32 degrees Fahrenheit.

- Precipitation has not exceeded ~~0.05 inch per day for each of the three days immediately preceding application and no precipitation is occurring on the day of application~~ the water-holding capacity of the soil to accept the manure application without the possibility of runoff.

B. No change.

ITEM 76. Amend **567—Chapter 65**, **Appendix A**, **System 3**, as follows:

SYSTEM 3: APRIL, JULY AND OCTOBER OPEN FEEDLOT EFFLUENT APPLICATION

MAJOR SYSTEM FEATURES. No change.

DETAILED SYSTEM REQUIREMENTS:

Open Feedlot Effluent Control System. No change.

Open Feedlot Effluent Application Requirements: Open feedlot effluent must be removed from the open feedlot effluent control system and land-applied in accordance with the following requirements:

1. No change.

2. Feedlot Runoff Control System:

A. A feedlot operator must comply with the following open feedlot effluent application requirements if application operations are limited to the months of April, July and October.

During these months, land application shall be conducted at rates sufficient to ensure complete removal of accumulated open feedlot effluent from the runoff control system in ten or fewer application days. Open feedlot effluent removal is considered complete when the open feedlot effluent remaining in the runoff control system occupies less than 10 percent of the system's design open feedlot effluent storage capacity.

During April, July and October, open feedlot effluent application operations shall be initiated on the first day that conditions are suitable for land application of open feedlot effluent, and application must continue on subsequent days that suitable conditions exist. If unfavorable weather conditions prevent complete application of open feedlot effluent to be accomplished during any of these months,

open feedlot effluent application must be continued into the following month. Open feedlot effluent application operations may cease when complete application has been achieved.

Weather and soil conditions are normally considered suitable for land application of open feedlot effluent if:

- Land application areas are not frozen or snow-covered.

- Temperatures during application are greater than 32 degrees Fahrenheit.

- Precipitation has not exceeded ~~0.05 inch per day for each of the three days immediately preceding application and no precipitation is occurring on the day of application~~ the water-holding capacity of the soil to accept the manure application without the possibility of runoff.

B. No change.

ITEM 77. Amend **567—Chapter 65**, **Appendix A**, **System 4**, as follows:

SYSTEM 4: OPEN FEEDLOT EFFLUENT APPLICATION AFTER EACH SIGNIFICANT PRECIPITATION EVENT

MAJOR SYSTEM FEATURES. No change.

DETAILED SYSTEM REQUIREMENTS:

Open Feedlot Effluent Control System. No change.

Open Feedlot Effluent Application Requirements: Open feedlot effluent must be removed from the open feedlot effluent control system and land-applied in accordance with the following requirements:

1. No change.

2. Feedlot Runoff Control System: Accumulated open feedlot effluent shall be removed from the feedlot runoff control system and disposed of by land application following each precipitation or snowmelt runoff event which results in significant open feedlot effluent accumulations in the control system. Open feedlot effluent accumulations will be considered significant whenever the available (unoccupied) storage capacity remaining in the control system is less than 90 percent of that required to store the runoff from the 25-year, 24-hour precipitation event.

Once the available storage capacity remaining in the open feedlot effluent control system is reduced to the point that open feedlot effluent application is necessary, open feedlot effluent application operations must be initiated on the first day that conditions are suitable for land application of open feedlot effluent, and application must continue on subsequent days that suitable conditions exist. Application operations may cease when the storage capacity available in the control system has been restored to greater than 90 percent of that required to store runoff from the 25-year, 24-hour precipitation event.

During application periods, land application shall be conducted at rates sufficient to ensure complete removal of accumulated open feedlot effluent from the control system in ten or fewer application days.

Weather and soil conditions are normally considered suitable for land application of open feedlot effluent if:

- Land application areas are not frozen or snow-covered.

- Temperatures during application are greater than 32 degrees Fahrenheit.

- Precipitation has not exceeded ~~0.05 inch per day for each of the three days immediately preceding application and no precipitation is occurring on the day of application~~ the water-holding capacity of the soil to accept the manure application without the possibility of runoff.

ITEM 78. Amend **567—Chapter 65**, **Appendix A**, **System 5**, as follows:

SYSTEM 5: APRIL/MAY AND OCTOBER/NOVEMBER OPEN FEEDLOT EFFLUENT APPLICATION

MAJOR SYSTEM FEATURES. No change.

DETAILED SYSTEM REQUIREMENTS:

Open Feedlot Effluent Control System. No change.

Open Feedlot Effluent Application Requirements: Open feedlot effluent must be removed from the open feedlot effluent control system and land-applied in accordance with the following requirements:

1. No change.

2. Feedlot Runoff Control System: At a minimum, accumulated open feedlot effluent shall be removed from the feedlot runoff control system and disposed of by land application during the periods April 1 through May 31 and October 1 through November 30.

During each of these periods, land application shall be conducted at rates sufficient to ensure complete removal of accumulated open feedlot effluent from the runoff control system in ten or fewer application days. Open feedlot effluent removal is considered complete when the open feedlot effluent remaining in the runoff control system occupies less than 10 percent of the system's design open feedlot effluent storage capacity.

A feedlot operator may dispose of accumulated open feedlot effluent during any period of the year that conditions are suitable. While application during other periods will minimize the need for application during the April/May and October/November periods, the feedlot operator will still need to dispose of sufficient open feedlot effluent during these periods to reduce the open feedlot effluent volume remaining in the runoff control system during these periods to less than 10 percent of the system's design open feedlot effluent storage capacity.

Land application of open feedlot effluent shall be conducted on days when weather and soil conditions are suitable. Weather and soil conditions are normally considered suitable for open feedlot effluent application if:

- Land application areas are not frozen or snow-covered.

- Temperatures during application are greater than 32 degrees Fahrenheit.

- Precipitation has not exceeded ~~0.05 inch per day for each of the three days immediately preceding application and no precipitation is occurring on the day of application~~ the water-holding capacity of the soil to accept the manure application without the possibility of runoff.

ITEM 79. Rescind **567—Chapter 65**, **Table 2**, and adopt the following **new** table in lieu thereof:

TABLE 2
Major Water Sources – Lakes

County	Lake Name	Easting	Northing	Location
Adair	Greenfield Lake	375999.79	4572927.56	1 mile southwest of Greenfield
	Meadow Lake	379665.66	4582459.52	6 miles northeast of Greenfield
	Meadow Lake Watershed Pond 1	379413	4582674	
	Meadow Lake Watershed Pond 2	379575	4581649	
	Mormon Trail Lake	363054.22	4566934.26	1½ miles southeast of Bridgewater
	Nodaway Lake	374770.59	4571870.36	2 miles southwest of Greenfield
	Orient Lake	379552.53	4561682.24	1 mile southwest of Orient
Adams	Binder Lake	356117.08	4540974.27	1 mile northeast of Corning
	Lake Icaria	353123.81	4545985.84	4 miles north of Corning
	Spring Lake	354110	4538035	
	West Lake Corning	354797.09	4540213.74	North edge of Corning
Allamakee	Big Lake (Lansing)	644291	4807674	3 miles north of Lansing
	Big Slough	642493	4809417	
	Butler Lake	652484	4785589	
	Conway Lake	657161	4738737	Pool 11, Mississippi River
	Founders Pond	646809.86	4771777.37	
	Gimmel Lake	653020	4786756	
	Harper's Slough	652820	4787292	
	Japan Slough	649975	4781589	
	Joyce Lake	651789	4786453	
	Lansing Lake	644132.62	4806470.39	
	Lost Channel	643012	4814948	
	Martelle Lake	652046	4785558	
	McDonald Slough	643396	4807291	
	Middle Slough	643004	4806779	
	Minnesota Slough	641882	4816293	
	Mud Hen Lake	650260.15	4780202.09	
	New Albin Big Lake	642649.71	4815967.5	
	Off Slough	649525	4778400	
	Oil Spring Creek	652475	4786953	
	Phillipi Lake	642729	4806240	
	Pigpen Slough	640087	4817194	
	Rittenhouse Lake	653227	4785541	
	Saint Paul Slough	654608	4788421	
	Taylor Lake	650782	4782728	
	Upper Iowa River	642871	4814120	
	Village Creek	645559	4800999	

County	Lake Name	Easting	Northing	Location
	Waukon Pond	623664	4790199	South end of Waukon
	Yellow River Pond	643657	4781904	
	Zoll Lake	641939	4808167	
Appanoose	Lower Centerville Reservoir	509891.81	4507010.42	2 miles south of Centerville
	Mystic Reservoir	504475.03	4515541.19	North edge of Mystic
	Rathbun Reservoir	507933.71	4521817.24	8 miles northwest of Centerville
	Stephen's Forest - Unionville Area Pond	528645.58	4518825.61	
	Upper Centerville Reservoir	508646.64	4506155.89	South edge of Centerville
Audubon	Littlefield Lake	351168.93	4602359.81	4 miles east of Exira
	Nabotna Pond	343511.71	4624705.94	
Benton	Hannen Lake	573568.05	4635295.78	4 miles southwest of Blairstown
	Polk Township Lake	587024	4681784	5.5 miles northwest of Urbana on west side of I-380
	Rodgers Park Lake	576162.03	4672389	3.5 miles northwest of Vinton
	Winegar Lake	579835.17	4682491.94	9 miles north of Vinton
Black Hawk	Alice Wyth Lake	547459.69	4708746.55	North edge of Waterloo
	Big Woods Lake	546383	4711126	Northwest edge of Cedar Falls
	Black Hawk Park Pond 1	541989	4715777	
	Black Hawk Park Pond 2	542020	4716091	
	Brinker Lake	549696.62	4707599.56	North edge of Waterloo
	Casey Lake (a.k.a. Hickory Hills Lake)	556658.34	4679465.31	12 miles south of Waterloo
	Cedar Falls Impoundment	545219.5	4709795.29	North edge of Cedar Falls
	Cedar River N.R.A. Pond	564167	4693201	
	City Park Pond (Waterloo)	551267.77	4707955.43	
	Deerwood Park Lake	557153	4701012	
	Fisher Lake	548451.46	4709310.52	North edge of Waterloo
	Fox Township W.A. Pond	576669	4699847	
	George Wyth Lake	549304.53	4709368.04	North edge of Waterloo
	Green Belt Lake	550302.63	4703101.58	West edge of Waterloo
	Harold Getty Lake	556343	4703053	Located in southeast Waterloo about 1 mile north of the intersection of Highway 20 and Highway 218 (follow Mitchell Street about 0.25 miles east from Highway 218 to the Riverview Recreation Area)
	Hope Martin Pond	551368	4704345	
	Meyers Lake	558310	4701247	Evansdale
	North Hartman Pond	548427	4708601	North edge of Waterloo
	North Prairie Lake	544206.21	4703495.88	Southwest edge of Cedar Falls
	Railroad Lake (Falls Access S.W.M.A.)	540750.04	4714257.34	
	Roger Birdsall Memorial Park Lake	542025.53	4709221.17	
	Singing Bird Lake	551500.52	4704389.09	
	South Hartman Pond	548882	4708243	North edge of Waterloo

County	Lake Name	Easting	Northing	Location
	South Prairie Lake	544294.1	4702973.87	
	Thunder Woman Park Pond	538081	4720051	
	Turkey Ridge	539901	4720235	
	West Hartman Pond	548157	4708610	
Boone	Dickcissell Lake	432318.99	4654283.46	4 miles east of Boone
	Don Williams Lake	415725.47	4663301.65	5 miles north of Ogden
	Fraser	419267	4664205	West edge of Fraser
	Fraser Pit	419643	4663787	
	Jay Carlson (south)	422516	4654138	3 miles west of Boone
	Jay Carlson Pit (east)	422807	4654169	
	Jay Carlson Pit (west)	422427.57	4654299.59	3 miles west of Boone
	McHose Park Pond	426458.23	4654856	
Bremer	Avenue of the Saints Pond	537967.5	4728531.17	2 miles southwest of Waverly
	Frederika Impoundment	556332.06	4748108.86	
	Horton Pond	543076	4737673	
	Three Rivers Pond	543567	4731680	
	Waverly Impoundment	543351.73	4730767.74	
	Wilson Grove North	574521	4747448	
	Wilson Grove South	574556	4747158	
Buchanan	Fairbank Impoundment	577705.32	4721261.98	
	Fontana Mill Lake	589338.93	4717700.81	.5 miles south of Hazleton
	Grover Pond	597864	4694570	
	Independence Impoundment	590394.01	4703679.18	Independence
	Koutny Pond	585334.5	4683990.61	2.5 miles southeast of Brandon
	Quasqueton Impoundment	601853.66	4694358.61	
	Sand Creek Access Area Lake	604060.74	4688360.98	
	Triangle Park Pond	590366	4700259	
Buena Vista	Gustafson Lake	324410.66	4749539.68	1 mile south of Sioux Rapids
	Marathon City Park Pond	336282.51	4747522.39	
	Pickerel Lake	343178.2	4752172.72	7 miles northwest of Marathon
	Storm Lake (incl. Little Storm Lake)	320724	4720589.78	South edge of Storm Lake
	Sturchler Pit (Newell Pit)	332561.65	4720157.73	1½ miles northwest of Newell
	Three Waters W.A. Lake	332361.81	4723241.67	2 miles west, 3 miles north of Newell
Butler	Shell Rock County Park Lake	533481.5	4730230.8	
	South Fork Park Pond	501014	4732423	
	Sportsman's Pond	526024.24	4737139.8	
Calhoun	Calhoun W.A. Pond	380550.56	4708274.59	
	Highway 4 R.A. Pond	364318.22	4693540.94	Southwest edge of Rockwell City
	North Twin Lake	366058.06	4704861.72	4 miles north of Rockwell City
	Rockwell City City Pond	365301.56	4695663.29	
Carroll	Daniel Davis Timber Pond	350975.82	4639598.71	
	Great Western Park Lake	327502.29	4640943.67	¼ mile west of Manning

County	Lake Name	Easting	Northing	Location
	Swan Lake	347387.38	4655754.9	3 miles southeast of Carroll
	Tigges Pond Dedham	350202	4637381	
	Tigges Pond Willey	346242	4648362	
Cass	Atlantic Quarry Pond 1	331184	4587055	
	Atlantic Quarry Pond 2	331584	4587075	
	Atlantic Quarry Pond 3	331194	4586765	
	Atlantic Quarry Pond 4	330814	4586305	
	Cass County Education Pond	355709	4565459	
	Cocklin Fish Farm	321115.02	4569144.05	2 miles north of Griswold
	Cold Springs Lake	325247.74	4573271.32	1 mile south of Lewis
	Iranistan Pond	321341.31	4575142.81	5½ miles north of Griswold
	Lake Anita	351183.86	4587776.12	½ mile south of Anita
	Nodaway W.A. Pond	348909.57	4562168.2	4 miles southwest of Massena
Cedar	Bennett Lake	673027.94	4623719.41	3 miles east of Bennett
	Cedar Valley Park Quarries	646463.9	4620838.45	7.5 miles southwest of Tipton
Cerro Gordo	Black Pit	481804.02	4776426.15	Southwest edge of Mason City
	Blair Meadows Preserve Pond	478617.97	4779040.49	
	Blue Pit	482111.48	4776398.89	Southwest edge of Mason City
	Bluebill Lake	472575	4772317	4 miles south of Clear Lake
	Clark Lake (Mike Zack W.A.)	484789.14	4772323.49	4 miles southeast of Mason City
	Clear Lake	468223.96	4775662.73	South edge of Clear Lake
	Fin and Feather Lake	484532.82	4772256.57	3 miles south, 1 mile east of Mason City
	Georgia Hanford Park Ponds	484772.71	4774447.16	
	Kuhn W.A. Quarry	461019.75	4784286.67	
	Lime Creek Conservation Area Pond	483422.38	4781958.78	
	Mason City East Park Pond	485146.14	4777980.74	
	Rockfall Pond	493523.87	4783404.37	
	Rockwell Pond	483665.34	4757598.17	
	Wilkinson Pioneer Park Pond	495812.85	4781094.28	1 mile southwest of Rock Falls
Cherokee	Larson Lake	304430.57	4733431.63	2½ miles east, 2 miles north of Aurelia
	Spring Lake	288123.89	4736797.97	South edge of Cherokee
Chickasaw	Airport Lake	553186.11	4770705.14	2 miles northwest of New Hampton
	Goodale Conservation Area Pond	538694.07	4781787.04	
	Johnny Walnut Seed Conservation Area Pond	558890.16	4783221.4	
	Nashua Impoundment (Cedar Lake)	537601.88	4756074.71	East edge of Nashua
	New Hampton Pond (Garnant)	556648	4766778	On south 4th Avenue
	Ringneck Haven	546180	4776920	1.5 miles north, 1 mile west of North Washington

County	Lake Name	Easting	Northing	Location
	Sluggo's Pond	572129.68	4775728.49	
	Split Rock Lake	562232.53	4751215.46	4 miles south, 2 miles west of Fredericksburg
	Twin Ponds	549570.09	4762052.06	
Clarke	East Lake (Osceola)	437595.56	4542703.74	½ mile east of Osceola
	Grade Lake	435244.38	4541428.82	
	Green Pines W.A. Pond	440396.84	4554345.48	
	Q Pond City Park	434442.65	4543865.34	Northwest edge of Osceola
	West Lake (Osceola)	432377.34	4543057.65	2 miles west of Osceola
Clay	Brugeman Park Pond	306038.38	4784675.59	
	Dicken's Pit	336663.27	4776416.47	
	Elk Lake	343505.42	4771935.39	1 mile west, 3 miles south of Ruthven
	Hawk Valley Pond (east)	330877	4777520	
	Hawk Valley Pond (west)	330799.83	4777354.35	
	James W.A. Lake	320881.12	4754827.39	
	Scharnberg Pond	313589.42	4780323.5	3 miles east of Everly
	Schmerse W.A. Pond	330762.31	4789429.12	
	Stolley Pit	322147	4780318	
	Trumbull Lake	341588.03	4783433.66	4 miles west, 5 miles north of Ruthven
Clayton	Ackerman Cut	657357	4737376	
	Big Pond	657273.37	4738200.61	
	Bussey Lake	654925.65	4740888.84	2 miles north of Guttenberg
	Cassville Iowa Slough	659190	4733838	
	Dead Lake	664841	4728559	
	Elkader Impoundment	630271.33	4746096.02	Elkader
	Ferry Slough	656672	4741212	
	Frenchtown Lake	655025.87	4745546.55	
	Guttenberg Waterfowl Ponds	650096	4755972	
	Johnsons Slough	649854	4758013	
	Methodist Lake	650333	4754252	
	Norwegian Lake	650299	4756882	
	Osborne Pond	627996.1	4739466.54	4.5 miles southwest of Elkader on Highway 13
	Picayune Chute	667499	4727985	
	Sny Magill Ponds (3)	646906	4757322	
	Spring Lake	663898	4728959	
	State Line Slough	655794	4749192	
	Swift Slough	656481	4738566	
	Wachendorf Lake	665673	4728599	
	Wood Duck Lake	664082	4729894	
	Wood Duck Slough	665193	4728551	
	Wyalusing Slough	649971	4754957	
	Wyoming Slough	649926	4755032	
Clinton	Beaver Slough	731464	4633122	

County	Lake Name	Easting	Northing	Location
	Blue Bill Slough	729968	4630504	
	Cook Slough	735828	4656142	
	Dark Chute	734997	4656669	
	Elk River Slough	735246	4651042	
	Gomers Lake	734043	4650592	
	Grass Lake	732753	4632465	
	Hagenson Pond	719775.71	4624673.83	.25 miles south of Folletts
	Killdeer R.A. Lake	711769.49	4632533.72	5 miles east of DeWitt
	Lower Lake	731111	4631776	
	Lyons Chute	735004	4642186	
	Malone Park Pond	711349.2	4632124.6	5 miles east of DeWitt
	McAndrews Wildlife Area Pond	676287	4655308	
	Pond Lily Lake	725811	4628290	
	Rock Creek	723154	4625541	
	Schricker Slough	724198	4627207	
	Sodus Slough	723474	4625535	
	Swan Slough	726432	4628308	
	The Tubes	725042	4627687	
	Tyler Lake	724150	4627546	
	Upper Lake	731782	4632342	
Crawford	Ahart/Rudd N.R.A. Pond	291176.1	4641904.72	1 mile west, 1.5 miles south of Dow City
	Nelson Park Lake	285370.38	4646138.79	3 miles west, 3 miles north of Dow City
	Newcom/Riggelman N.R.A. Pond	311386.82	4668258.97	
	Sunset Lake	303325.19	4652690.91	
	Yellow Smoke Park Lake	307776.43	4655290.27	2 miles east, 2 miles north of Denison
Dallas	Beaver Lake	398938.68	4598600.26	1½ miles north of Dexter
	Glissman Pond	407406	4602545	
	Siglund Pond	429979	4628676	
	Snyder Pit	412198	4621032	
Davis	Bloomfield City Park Pond	550631.24	4511403.99	
	Davis County Pond 1 (N-S)	551262	4511060	
	Davis County Pond 10 (N-N)	551330	4511330	
	Davis County Pond 2 (S-NE)	551448	4510774.28	
	Davis County Pond 3 (S-NW)	550946	4510770	
	Davis County Pond 4 (S-NM2)	551166	4510721	
	Davis County Pond 5 (S-M1)	551147	4510550	
	Davis County Pond 6 (S-S)	551277	4510162	
	Davis County Pond 7 (S-NM1)	551246	4510808	
	Davis County Pond 8 (S-M2)	551212	4510377	

County	Lake Name	Easting	Northing	Location
	Davis County Pond 9 (N-M)	551274	4511217	
	Drakesville Ponds	544053.7	4516907.98	
	Lake Fisher	547145.17	4511858.74	2 miles northwest of Bloomfield
	Lake Wapello	535775.58	4518715.47	7 miles west of Drakesville
Decatur	Home Pond	419485.75	4497642.68	
	Lake LeShane	417531.16	4498385.73	
	Little River Watershed Lake	434102.76	4512932.22	1 mile west of Leon
	Nine Eagles Lake	434841.62	4494456.68	3½ miles southeast of Davis City
	Slip Bluff Lake	427969.88	4500576.02	2 miles northwest of Davis City
Delaware	Backbone Lake	620098.06	4717575.34	4 miles southwest of Strawberry Point
	Schram Pond	627204	4703162	
	Silver Lake (Delaware)	637956.2	4698315.57	Southeast edge of Delhi
Des Moines	4th Pumping Plant (Iowa Slough Lake)	670782.93	4547982.17	6 miles north, 5 miles east of Kingston
	Big Hollow Lake	648948	4534137	3 miles west of Sperry
	Black Hawk Bottoms	658961	4507637	
	Buffalo Slough	670919	4545162	
	Camp Island	672008	4540145	
	Charlie Island	672115	4542329	
	Cody Chute	671688	4543373	
	Gahn Wildlife Refuge Pond	652570.62	4522956.11	Northwest of West Burlington, 1 mile north of Highway 34
	Gates Lake	670341	4546373	
	Gorge Pond	648629	4534554	5 miles west of Sperry
	Gun Chute	671255	4544681	
	Half Moon Lake	658047	4508487	
	Huron Chute	670493	4546373	
	Izaak Walton Lake	656013.69	4521699.42	
	Johnson Island	672127	4541237	
	Leaky Pond	649971	4535213	5 miles west of Sperry
	Linder Pond	648842	4534364	5 miles west of Sperry
	O'Connell Slough	661110	4523877	
	Otter Bay	663051	4523701	
	Otter Slough	662762	4524286	
	Round Lake	657613	4509914	
	Rush Chute	661527	4523059	
	Shelter D	649433	4535145	5 miles west of Sperry
	Shelter E	650161	4535176	5 miles west of Sperry
	Swift Slough	665024	4527309	
	Twin Ponds	671560	4545138	
	West Lake	655836.8	4521930.26	
	Yeager Lake	660748.37	4521923.82	
Dickinson	Big Spirit Lake	329966.96	4812894.29	1 mile north of Spirit Lake
	Center Lake	327070.22	4808772.86	2 miles west, ½ mile south of Spirit Lake
	Diamond Lake	322816.82	4816686.45	2 miles east, 2 miles north of Montgomery

County	Lake Name	Easting	Northing	Location
	East Okoboji Lake	328394.92	4805141.83	East edge of Okoboji
	Little Spirit Lake	328213.3	4818249.82	4 miles north of Orleans
	Little Swan Lake	342370	4813624	
	Lower Gar Lake	328234.54	4801799.84	½ mile south of Arnolds Park
	Minnewashta Lake	327875.2	4803006.35	½ mile south of Arnolds Park
	Pleasant Lake	335821.28	4807755.65	3 miles east, 1 mile south of Spirit Lake
	Prairie Lake	332924.42	4805076.72	2.5 miles east of Arnolds Park
	Silver Lake (Dickinson)	310997.28	4813089.18	West edge of Lake Park
	Swan Lake	342395.86	4813752.52	2 miles north of Superior
	Upper Gar Lake	328141.26	4803845.34	East of Arnolds Park
	Welch Lake	324264.45	4814314.92	
	West Okoboji Lake	326658.64	4804352.38	Northwest edge of Arnolds Park
	Westport Park Pond	309177.54	4798208.23	
Dubuque	Basswood Creek	679703	4724434	
	Bluebell Creek	661458	4730249	
	Bunker Chute	672453	4726563	
	Dubuque Harbor	692288	4706960	
	East Bergfeld	682823	4706318	
	Greens Lake	699375	4700686	
	Heritage Pond	688309.91	4713704.08	North edge of Dubuque
	Horseshoe Lake	700143	4700256	
	Lake Peosta Channel	692993	4710087	
	Molo Slough	698268	4701301	
	Mud Lake Park	688390.25	4720447.61	
	Shawon Dasse Slough	698520	4701375	
	West Bergfeld	682370	4706457	
Emmet	High Lake	361493.8	4796057.25	6 miles east of Wallingford
	Ingham Lake	362567.49	4797656.25	6 miles east of Wallingford
	Iowa Lake	382161.54	4817021.05	6 miles north of Armstrong
	Jim Hall Habitat Area Wetland	356559.58	4791861.6	
	Tuttle Lake	371345.55	4817077.11	1 mile east, 2 miles north of Dolliver
	West Swan Lake S.W.M.A.	364028.85	4801616.77	3 miles southeast of Gruver
Fayette	Gilbertson Area Lake	613397.36	4756833.09	East of Elgin off of County Highway B64
	Lake Oelwein	588798.64	4722337.49	South edge of Oelwein
	Maynard Impoundment	591414	4737075	
	Volga Lake	600326.81	4750319.41	3 miles north of Fayette
	Waucoma Impoundment	578691.97	4767409.38	
Floyd	Charles City Impoundment	525968.93	4768270.7	Charles City
	Fossil Park Pond	502010	4766025	1 mile west of Rockford
	Marble Rock Impoundment	510448.27	4757045.24	West edge of Marble Rock
	Rudd Lake	509045	4774695	East of Rudd
Franklin	Beeds Lake	480055.88	4735292.12	2 miles west, 1 mile north of Hampton
	Interstate Park Lake	465846.02	4730889.95	1 mile west, 2 miles south of I-35 and Hwy 3

County	Lake Name	Easting	Northing	Location
	Maynes Grove Lake	483119.56	4724728.86	5 miles south of Hampton
	Pope Joy Pond	464203	4714636.42	
	Prairie Bridges Park Ponds	495240.66	4712345.37	1 mile north of Ackley
	Robinsons Pond	485757.14	4733568.17	
	Sheffield G.M.A. Pond	477136.67	4750562.81	
	Toft Pit	459592.79	4723669.33	
Fremont	Lake Virginia	272866	4504644	5 miles west of Riverton
	McPaul A Pond	263645.55	4525103.08	2 miles south of Bartlett
	McPaul B Pond	263506.35	4523459.15	2 miles south of Bartlett
	Percival Lake	262829.68	4517831.28	1 mile north of Percival
	Pinky's Glen Pond	270951.36	4530967.33	2 miles west of Tabor
	Scott Lake A	263972.86	4527917.37	1½ miles south of Bartlett
	Scott Lake B	263966.46	4527143.86	1½ miles south of Bartlett
	Waubonsie Access Lake	261509.74	4507347	
Greene	Pound Pit	396860	4658722	
	Pound Pit middle W	396775	4658797	
	Pound Pit NE	396775	4658894	3 miles north of Grand Junction
	Pound Pit NW	396654	4658891	
	Pound Pit SW	396723	4658550	
	Spring Lake	393381.93	4657295.83	4 miles northwest of Grand Junction
Grundy	Grundy County Lake	529801.87	4700900.07	South side of Hwy 20 at Dike exit
	Rodman Park Ponds	527694.71	4702110.46	2 miles west of Dike
	Stoehr Lake (Wellsburg)	509535.39	4693577.21	4 miles southeast of Wellsburg
Guthrie	Springbrook Lake	378112.1	4626039.93	7 miles north of Guthrie Center
	Sutcliff Woodland Pond	363708.79	4613110.19	10 miles north of Adair
Hamilton	Briggs Woods Lake	434799.38	4698625.1	2 miles south of Webster City
	Little Wall Lake	447509.22	4679896.07	1½ miles south of Jewell
Hancock	Crystal Lake	435751.69	4786527.29	North edge of Crystal Lake
	Crystal Lake Sediment Pond	436272	4787244	Off the northeast corner of Crystal Lake
	Eight Mile Pits	439357.12	4787963.53	
	Eldred Sherwood Lake	453975.09	4754473.17	3 miles east, 1 mile north of Goodell
	Pilot Knob Lake	454452.32	4788839.96	3 miles east of Forest City
	Torkelson Pit W.A. (north)	456166.98	4783852.84	
	Torkelson Pit W.A. (southeast)	456317	4783649	
	Torkelson Pit W.A. (southwest)	456186	4783743	
	West Twin Lake	440160.83	4754061.28	3 miles east of Kanawha
Hardin	Alden	469050	4707733	
	Lower Pine Lake	493819.22	4690719.67	½ mile east of Eldora
	Meiers Access	472688	4684011	
	Pine Ridge R.A. Lake	494327.5	4696097.19	
	Steamboat Rock	494022	4695110	
	Upper Pine Lake	494761.55	4691675.65	½ mile east of Eldora

County	Lake Name	Easting	Northing	Location
Harrison	DeSoto Bend at DeSoto National Wildlife Refuge	247652.14	4603538.94	5 miles west of Missouri Valley at DeSoto National Wildlife Refuge
	Dunlap Pond	285083.69	4636573.63	East edge of Dunlap
	Nobles	251377	4599685	6 miles southwest of Missouri Valley
	Sawmill Hollow W.A. Pond	257535.24	4614482.5	4 miles southwest of Magnolia
	Schaben Pond	278081.43	4631303.92	5½ miles northeast of Woodbine
	Schley Park Pond	287078.68	4606215.77	1 mile east of Persia
	Willow Lake	268199.26	4627939.86	5½ miles west of Woodbine
Henry	East Lake Park	624600.28	4533827.73	Mount Pleasant - city park
	Gibson Area Pond	611978	4531418	East of Oakland Mills (Henry CCB)
	Lake Geode	636087.98	4519878.79	4 miles southwest of Danville
	Lake Geode Pond #1	637003	4520751	
	Lake Geode Pond #3	637089	4520269	
	Lake Geode Pond #4	636941	4520357	
	Lake Geode Pond #5	636535	4520217	
	Lake Geode Pond #6	634992	4520680	
	Lake Geode Pond #7			
	Lake Geode Pond #8			
	Oakland Mills Impoundment	616371.43	4532547.37	
Howard	Lake Hendricks	536796.76	4802511.8	.5 miles northeast of Riceville
	Lidtke Impoundment	558360	4812676	
	Lime Springs Impoundment	558117.58	4812991.97	
	Merrick Pond	538801.89	4788117.94	
	Taylor Park Pond	571816.29	4789408.51	3 miles northwest of Protivin
	Vernon Springs Park Pond	569748.29	4799739.76	
Humboldt	Humboldt Impoundment	399264.31	4731291.08	
	Rutland Impoundment	393915	4734434	
Ida	Crawford Creek Impoundment	285080.77	4683549.46	3½ miles south of Battle Creek
	Moorehead Park Pond	295746.77	4692499.69	½ mile north of Ida Grove
Iowa	Gateway Park North	577527	4629168	North edge of Marengo
	Gateway Park South	577522	4628800	North edge of Marengo
	Iowa Lake	568747.08	4609827.89	5 miles north of Millersburg
	Lake Iowa Pond	568387	4609231	Behind the nature center in Lake Iowa Park
	Williamsburg Pond	581687.98	4612442.9	In the town of Williamsburg
Jackson	Alligator Lake	733398	4662712	
	Bards Lake	732439	4662936	
	Barge Lake	734038	4662695	
	Bellevue Pond	713018	4680766	South edge of Bellevue, near Bellevue State Park
	Bellevue Slough	711881	4688370	
	Big Keller Lake	733142	4667124	
	Big Sieber Lake	732910	4664862	
	Blake's Lake	726130	4672042	

County	Lake Name	Easting	Northing	Location
	Bonnie Lake	717312.92	4675010.51	
	Bowman's Slough	717091	4676230	
	Dead Lake	733310	4664175	
	Densmore Lake	724280.63	4671708.49	
	Doc Wood Lake	733494	4664015	
	Eldridge Slough	734109	4663128	
	Esmay Slough	733497	4665008	
	Fish Lake	722936.54	4672600.4	
	Flat Lake (A)	719274	4674318	
	Flat Lake (B)	733522	4663968	
	Golden Lake	718898.04	4675105.93	
	Goose Lake	720185.32	4674528.7	
	Green Island Lake	724532.96	4671513.05	1 mile east of Green Island
	Harrington Slough	713758	4679680	
	Horseshoe Pond	693445.62	4658581.92	
	Hubble Slough	733897	4659264	
	Hurstville Pond	691433	4662547	1 mile north of Maquoketa
	Israel Day Lake	733606	4662720	
	Jackson Lake	719474	4674965	
	Joe Day Lake	732671	4664015	
	Lainsville Slough	729361	4669432	
	Little Keller Lake	732659.32	4667065.9	
	Little Sawmill Lake	724477.32	4672495.39	
	Little Sieber Lake	733166	4664662	
	Lower Brown Lake	727674	4670384	
	Lower Y Lake	733727.34	4666349.11	
	McGann's Lake	725645	4672141	
	Middle Sabula Lake	733211.42	4661003.42	West edge of Sabula
	Pin Oak Lake	729142.03	4670312.65	
	Running Slough	733678	4666005	
	Sawmill Lake	724778.68	4672601.1	
	Scarborough Lake	727305	4670619	
	Sheepshead Bay	734325	4665286	
	Snag Slough	723628	4672682	
	Snider Lake	722807.84	4673524.84	
	South Sabula Lake	733677.57	4660163.34	
	Sunfish Lake	732412.16	4666850.65	
	Town Lake	732718	4662632	
	Twin Lakes	721080.93	4674100.26	
	Upper Brown Lake	726110.52	4670430.27	
	Upper Sabula Lake	732981.25	4661695.68	
	Upper Y Lake	733574.41	4666792.15	
	Western Pond	718108.96	4674401.97	
Jasper	Clear Creek Pond	480600	4628525	

County	Lake Name	Easting	Northing	Location
	Deppe Pond (north)	511167	4623933	4 miles northeast of Kellogg
	Deppe Pond (south)	511161	4623426	4 miles northeast of Kellogg
	Jacob Krumm Nature Preserve Lake (east)	517620	4617110	
	Jacob Krumm Nature Preserve Lake (west)	518446.58	4617485.07	6 miles southeast of Kellogg
	Mariposa Lake	502975.97	4625216.65	5 miles northeast of Newton
	Reimer Refuge Pond	507460	4619070	
	Rock Creek Lake	512179.64	4620967.25	4 miles northeast of Kellogg
	Rock Creek Lake Park Pond (east)	513967	4621454	
	Rock Creek Lake Park Pond (north)	512526	4621802	
	Rock Creek Lake Park Pond (west)	511190	4620719	
	Stephens State Forest Reichelt Unit Lake	511067.31	4616575.07	
Jefferson	Bonnifield Lake	587914.03	4541523.96	
	Jefferson Co. Park New Pond	584904	4537775	Southwest edge of Fairfield
	Jefferson Co. Pond #1	584866	4537540	Southwest edge of Fairfield
	Jefferson Co. Pond #2	585164	4537540	Southwest edge of Fairfield
	Jefferson Co. Pond #3	585084	4538602	Southwest edge of Fairfield
	Jefferson Co. Pond #4	585272	4538373	Southwest edge of Fairfield
	Pleasant Lake	588370.59	4542079.46	
	Round Prairie Park Entry Pond	600087	4529881	12 miles southeast of Fairfield
	Round Prairie Park Quarry Pond	600304	4529660	
	Walton Reservoir	589629.66	4540841.99	
	Whitham Woods Pond	583314	4540070	1 mile west of Fairfield
	Zilman's Pond	592387	4536617	
Johnson	Broodmoor Pond	616993	4621423	East side of North Liberty
	Burlington Street Dam	621477	4612805	On the Iowa River in Iowa City under the Burlington Street bridge
	Coralville Reservoir	622294.37	4620498.12	4 miles north of Iowa City
	Dovetail Pond	620021	4617910	
	Ewalt Pond	614915	4617216	West side of Coralville
	Fox Run Pond	615638	4624756	North side of North Liberty
	Fox Valley Pond	614671	4619683	Southwest of North Liberty
	Freedom Pond	614993	4621721	North Liberty
	Goose Pond	613471	4624028	West side of North Liberty by I-380
	Iowa River Landing Pond	620047	4615397	Just south of I-80 at Iowa River landing
	Kent Park Lake	605587.26	4620021.73	2.5 miles west of Tiffin
	Lake Macbride	619078.11	4628229.25	4 miles west of Solon
	Liberty Centre Pond	615500	4622936	One block west off Hwy 965 on Cherry Street
	North Ridge Park Pond	616966.57	4616718.45	Just north of I-80 in Coralville

County	Lake Name	Easting	Northing	Location
	Oakdale Ponds	616042	4618778	East of Hwy 965
	Redbird Farms W.A. Ponds	607294.48	4607914.17	9 miles southwest of Iowa City
	S.T. Morrison	617764	4615107	Coralville
	Terry Trueblood Lake	622528	4608957	1.5 miles south of Hwy 6 on Gilbert Street in Iowa City
	Town Dam	619489	4614596	On the Iowa River along 1st Avenue in Iowa City
	West Pond	613582	4621842	
Jones	Central Park Lake	653870.14	4663855.76	2 miles west of Center Junction
	Hale Ponds	663097	4654211	3 miles east of Hale
	Monticello Dam	650809	4678560	On the Maquoketa River on the east side of Monticello
	Olin R.A. Pond	654322.31	4652393.1	1 mile north of Olin
Keokuk	Belva Deer Park Pond #1	572399	4580789	5 miles northeast of Sigourney
	Belva Deer Park Pond #2	572552	4580701	5 miles northeast of Sigourney in the campground
	Belva Deer Park Pond #3	572712	4580705	5 miles northeast of Sigourney in the campground
	Griffin Lake	554502.09	4582351.74	Southeast corner of What Cheer
	Griffin Pond #1	554809	4582606	
	Griffin Pond #2	555034	4582531	
	Lake Belva Deer	573367	4581022	5 miles northeast of Sigourney
	Yenruogis Pond	566866.17	4581105.04	2 miles north of Sigourney
Kossuth	Burt Lake	387755.38	4817117.51	4 miles west, 8 miles north of Swea City
	Hurlburt W.A. Pond	400846.96	4772904.56	
	Lake Smith	399004.66	4775327.52	3 miles north of Algona
	Plum Creek W.A. Pond	403565.97	4776155.8	
	St. Benedict W.A. Pond	411428.97	4763547.16	2 miles southwest of St. Benedict
	Whittemore Pit	386031.74	4767988.65	1.5 miles southeast of Whittemore
Lee	Bitternut	607002	4502463	3 miles north of Farmington
	Black Oak	608922	4499870	2 miles northeast of Farmington
	Chatfield Lake	631418.04	4477352.55	3 miles northwest of Keokuk
	Devil’s Creek Lake	635244	4494311	
	Grape Chute	655552	4502801	
	Lead Island Chute	648559	4501028	
	Martens Pond	612682	4498974	Just off Highway 2 in Shimek State Forest
	Martin Pond	612689	4498943	
	Pollmiller Park Lake	632044.15	4508067.78	East edge of West Point
	Rabbit Island Lake	638603	4497196	
	Shagbark	612763	4500242	6 miles northeast of Farmington
	White Oak	609402	4498526	2 miles east of Farmington
	Wilson Lake	627747	4500241	4 miles east of Donnellson
	Wilson Pond #1	627532	4500070	
	Wilson Pond #2	627327	4500075	
Linn	Central City Ponds	620723.06	4674042	

County	Lake Name	Easting	Northing	Location
	Coggon Impoundment	620851.21	4682196.87	On Buffalo Creek on the northwest edge of Coggon
	Five in One Dam	609949	4648267	On Cedar River under I-380 in Cedar Rapids
	Manhattan Robbins Lake Park	607509.52	4651345.38	On the Cedar River in northwest Cedar Rapids
	Mohawk Park Lake	608932	4650761	East side of the Cedar River off J Avenue
	Mount Vernon Quarry	631572	4641831	Between Mount Vernon and Lisbon on the north side of Highway 30
	Murphy Lake	619876	4645502	1 mile northwest of Bertram on the west side of Highway 13
	Pleasant Creek Lake	598199.61	4664125.85	4 miles north of Palo
	Prairie Park Fishery	613355	4644988	1.5 miles south-southeast of Cargill on Otis Road, along the Cedar River in Cedar Rapids
	Seminole Valley Park Lakes	605042.16	4650789.19	Along the Cedar River in northwest Cedar Rapids
	South Cedar Pond	630066.45	4638533.71	
	Wakpicada Natural Area Pit 1	621944	4671998	1 mile south of Central City
	Wakpicada Natural Area Pit 2	622013	4670928	1 mile south of Central City
Louisa	Beebe Pond	660348	4562333	
	Big Goose Pond	660725	4561162	
	Big Timber Complex	658059	4569957	
	Blackhawk Chute	670734	4551602	
	Cairo Woods Pond	638996.46	4562293.45	
	Coolegar Slough	658114.44	4570795.74	
	Fox Pond	659185	4564105	
	Hidden Acres	657929	4566569	
	Kilpeck Island Chute	660469	4574879	
	Lake Odessa	660024.13	4560444.9	5 miles east of Wapello
	Little Fox Pond	659618	4563856	
	Louisa Interpretive Center Pond	654884	4569511	
	Otter Island	662381	4561346	
	Prairie Pocket	659290	4565212	
	Swarms Pond	659731	4562325	
	Turkey Chute	660327	4563388	
	Virginia Grove R.A. Pond	640596.11	4556176.98	4 miles northwest of Morning Sun
Lucas	Ellis Lake	478118	4539959.96	1 mile east of Chariton
	Morris Lake	479091.71	4540050.46	3 miles east of Chariton
	Red Haw Lake	477089.37	4538562.46	1 mile east of Chariton
	Red Haw Pond 1 (east)	476871	4537515	
	Red Haw Pond 2 (middle)	476686	4537455	
	Red Haw Pond 3 (north)	476651	4537780	
	Stephen's Forest Lucas Unit Pond 1	458776.18	4541052.58	

County	Lake Name	Easting	Northing	Location
	Stephen's Forest Lucas Unit Pond 2	459618.26	4540360.97	
	Stephen's Forest Whitebreast Pond 1	458068.38	4537864.95	
	Stephen's Forest Whitebreast Pond 2	457718.44	4536796.84	8 miles west of Chariton
	Williamson Pond	482052.92	4549089.51	2 miles east of Williamson
Lyon	Jasper Pool	209438.86	4822553.45	
	Lake Pahoja	219000.7	4809227.87	4 miles south, 2 miles west of Larchwood
	Locker Park Pond	256720.45	4803663.21	In city park in George
Madison	Badger Creek Lake	423893.93	4591432.25	5 miles southeast of Van Meter
	Badger Creek Pond	423780	4592988	6 miles southeast of Van Meter
	Cedar Lake	416544.42	4580433.65	2 miles northeast of Winterset
	Criss Cove County Park Pond	412630.06	4562897.31	7 miles south of Winterset
	Deer Creek Wildlife Unit Pond	416883.11	4560928.89	
	Fellowship Forest Pond	410740	4570020	
Mahaska	Cedar Bluffs N.A. Pond	514213.22	4566947.03	
	Edmunson Pond	528946.31	4570391.36	
	Hawthorn Lake (a.k.a. Barnes City Lake)	545229.09	4591852.64	1 mile south of Barnes City
	Hawthorn Lake Watershed Ponds			
	Lake Keomah	538546.94	4571495.74	6 miles east of Oskaloosa
	Russell W.A. Pond	531042.96	4578939.74	6 miles north of Oskaloosa
	White Oak Conservation Area Lake	543838.8	4569253.88	2 miles south of Rose Hill
Marion	Bauer Park	473515.3	4561127.02	4 miles west of Melcher-Dallas
	Knoxville Pond	489340.69	4573756.55	1 mile southwest of Knoxville
	Pella S.G.M.A. Ponds	508282.51	4580049.2	
	Red Rock Reservoir	500001.33	4581031.68	4 miles north of Knoxville
	Roberts Creek Lake	495830.2	4585975.08	6 miles northeast of Knoxville
	Sand Pit	503020.85	4579588.17	
	Sunken Gardens Park Pond	507044.28	4584467.25	
	Tower Pond	501083.29	4578269.23	
	Wilcox W.A. Pond	504275.37	4566180.27	4 miles east of Attica
Marshall	Center Street Dam	506615	4656548	On the Iowa River on the north edge of Marshalltown
	Green Castle Lake	511581.56	4641843.27	1 mile south of Ferguson
	Marshall County Lake	501181.94	4653756.22	4 miles west of Marshalltown
	Sand Lake	511500	4655700	On the northeast edge of Marshalltown
Mills	Folsom Lake	262956.75	4551866.61	2 miles west of Glenwood
	Glenwood Lake	270109.51	4547391.54	East edge of Glenwood
	Keg Creek Lake	264085.12	4541300.49	2 miles southwest of Pacific Junction
	Lake George	293010.52	4544369.48	

County	Lake Name	Easting	Northing	Location
	Malvern Pond (a.k.a. Bohner Pond)	282046	4542498	West edge of Malvern
	Mile Hill Lake	265997.5	4548659.57	2 miles west of Glenwood
Mitchell	Interstate Lake (Mitchell Impoundment)	509569.33	4796205.54	West edge of Mitchell
	Otranto Impoundment	501476.14	4811770.78	
	Stacyville Impoundment	517933.94	4809237.57	
Monona	Blue Lake	238595.91	4659728.09	3 miles west of Onawa
	I-29 Access Area borrow pit – Dry	242812.82	4646066.83	
	Johnston Pit	257800	4676400	1 mile east of Rodney
	Loess Hills State Forest – Jones Creek	257215	4639517	
	McDonald Pit	257276	4675844	1 mile east of Rodney
	Middle Decatur Lake	234152.8	4655809.5	
	Oldham Lake	268988.65	4654477.44	1 mile north of Soldier
	Pawnee Rec. Area Pit (NE)	258042	4677144	
	Pawnee Rec. Area Pit (SW)	257900	4677000	
	Peters Park	256800	4676000	1 mile east of Rodney
	Savery Pond	263720.03	4638997.9	2 miles southeast of Moorhead
	Upper Decatur Bend	232403	4655429	
	Whiting Woods Pond	261406.53	4669982.78	
Monroe	Albia (lower)	515300	4544600	1 mile north of Albia
	Albia City Reservoir	514850	4544350	1 mile north of Albia
	Carmack Park Pond	505562.4	4552081.85	2 miles west of Lovilia
	Lake Miami	512952.93	4551706.67	5 miles southeast of Lovilia
Montgomery	Anderson Area Pond 1	316415.17	4544876.14	2 miles east of Red Oak
	Anderson Area Pond 2	316156.26	4543807.56	2 miles east of Red Oak
	Hacklebarney East	334300	4538900	4 miles north of Villisca
	Hacklebarney West	333600	4538400	4 miles north of Villisca
	Pilot Grove Lake	328614.32	4557101.13	5 miles east of Elliott
	Viking Lake	329002.05	4538071.21	4 miles east of Stanton
Muscatine	Cedar Bluffs R.A. Ponds	640775.91	4578442.02	
	Chicken Creek Lake	653073	4595470	8 miles northwest of Muscatine (CCB)
	Deep Lakes	660751	4581647	
	Drury Slough	672542	4587295	
	Environmental Discovery Park North Pond	660000	4588800	Muscatine CCB, east of Muscatine
	Environmental Discovery Park South Pond	659750	4588600	Muscatine CCB, east of Muscatine
	Gedney Lake	641241.83	4584761.77	
	Hershey Slough	671496	4588165	
	Hog Island	665859	4588186	
	Muscatine Slough (Kent-Stein Park)	661049.98	4586403.35	Southwest edge of Muscatine
	Spring Lake	660814	4577870	

County	Lake Name	Easting	Northing	Location
	Wyoming Slough	671745	4588758	
O'Brien	Dog Creek (Lake)	298538.13	4756818.5	2 miles east, ½ mile south of Sutherland
	Douma Area Pond	279975.69	4782398.84	2 miles west, 1 mile south of Sanborn
	Mill Creek (Lake)	282302	4762515	1 mile east of Paullina
	Negus Recreation Area Pond	297040.75	4756751.02	
	Sheldon Community Pond	271108.1	4784622.5	
	Tjossem Pond	286969.84	4771788.04	
Osceola	Ashton Park Pond	274303.65	4799335.56	
	Ashton Pits Wildlife Management Area	274931.84	4800219.8	
	May City Pit	298016.91	4800337.63	
	Ocheyedan Pit #1	294636.06	4806765.04	2 miles south of Ocheyedan
	Ocheyedan Pit #2	294509	4807219	2 miles south of Ocheyedan
	Ocheyedan Pit #3	294291	4807392	2 miles south of Ocheyedan
	Peters Pit	269633.43	4817562.63	
	Thomas Pit	295840.01	4802894.09	
	Willow Creek	288284	4812127	4 miles west of Ocheyedan
Page	Pierce Creek Pond	301186.8	4522851.23	5 miles north of Shenandoah
	Pioneer Park Pond	312336.38	4512741.41	10 miles north of Clarinda
	RAPP Park Lakes	300880	4517554	North edge of Shenandoah
	Ross Area Pit	334046.4	4497246.63	8 miles southeast of Clarinda
Palo Alto	Five Island Lake	364129.71	4776858.57	North edge of Emmetsburg
	Lost Island Lake	345236.73	4781980.63	3 miles north of Ruthven
	Mulroney Recreation W.A. Pond	371544.92	4763574.23	
	Silver Lake (Palo Alto)	346427.93	4766118.97	2 miles west of Ayrshire
	Sportsman Park Pond	373841.73	4774577.66	
	Virgin Lake	345799.11	4773993.31	2 miles south of Ruthven
Plymouth	Hillview R.A. Pond	227889.37	4726319.16	2 miles west of Hinton
	LeMars Pit	246489.6	4739176.68	
	Meadow W.A. Pond	260939.3	4748626.59	
	Rivers Bend Wildlife Area Lake	206448	4743942	
	Silver Maple County Park Pond	206580.89	4745257.62	
	Southeast Wildwood Park Pond	253515.73	4720561.95	
Pocahontas	Cooper's Cove Park Pond	379947.83	4720030.24	7 miles east of Palmer
	Fonda Reservoir	348315.07	4715687.24	
	Lizard Lake	377543.34	4725444.04	
	Meredith Park Pond	367541.9	4751724.52	1.5 miles north of Plover
	Northwest Recreational Park Pond	349680.49	4745166.51	Southeast edge of Laurens
Polk	Acorn Valley Pond	440086	4620848	Within Acorn Valley campground on the west side of Saylorville Reservoir 3 miles north of Johnston

County	Lake Name	Easting	Northing	Location
	Ankeny Lake (DMACC)	449512	4617135	Ankeny, DMACC campus
	Big Creek Lake	438321.15	4629479.46	2 miles north of Polk City
	Birdland Park Pond	448932.83	4606930.51	
	Blue Heron Lake (Raccoon River Park)	439020.58	4599899.06	Southwest of West Des Moines; Raccoon River Park
	Copper Creek	455930	4605980	North side of University Avenue in Pleasant Hill along Four Mile Creek
	Dale Maffitt Reservoir	434202.42	4596457.29	6 miles southwest of Des Moines
	Discovery Pond	434952.67	4626039.47	
	Donald McRae Park Pond	448020.25	4602131.04	
	Easter Lake	453737.61	4599264.29	Southeast edge of Des Moines
	Ewing Park Pond	451685.09	4598800.16	
	Fort Des Moines Pond	449107	4596329	
	Grays Lake	446619.95	4602226.81	Fleur Drive, Des Moines
	Greenwood/Ashworth Park Pond	443179.91	4603320.13	
	Hawkeye Park Pond	449411.16	4620502.87	Ankeny
	Lake Petocka	463217.99	4617300.7	Northeast edge of Bondurant
	Lake View Pond	439386	4609789	
	McHenry Park Lagoon	447691.3	4608112.63	
	Saylorville Reservoir	442684.68	4618588.91	North edge of Des Moines
	Skull Pond	434961	4626036	Within Jester Park 2.5 miles northeast of Granger
	Teal Pond	434504	4625778	Within Jester Park 2.5 miles northeast of Granger
	Terra Lake	441169	4612454	Within city of Johnston south of Pioneer Parkway
	Thomas Mitchell Lake	468053.88	4610166.83	3 miles southwest of Mitchellville
	Walker-Johnston Pond	438255	4608532	Within Walker-Johnston Park in the city of Urbandale
	Witmer Park Pond	444651.4	4606515.45	
	Yellow Banks Park Pond	461572.92	4598783.73	Southeast edge of Des Moines
Pottawattamie	Arrowhead Pond	283406.45	4590411.46	1½ miles southeast of Neola
	Big Lake (incl. Gilbert's Pond)	260371.03	4575268.64	North 25th Street exit off Interstate 29, Nash Blvd. to Big Lake Road, northeast Council Bluffs
	Carter Lake	255489.46	4576242.85	North edge of Carter Lake
	Farm Creek Lake	305790	4565600	5 miles east of Carson
	Lake Manawa	260203.21	4565635.29	Southwest edge of Council Bluffs
	Riepe Pond	307915	4565321	
	Saganaush Pond	256320	4568090	On grounds of Western Historic Trails Center in western Council Bluffs, accessed via Richard Downing Avenue
Poweshiek	Arbor Lake	522262.02	4620025.39	On the southwest edge of Grinnell
	Diamond Lake	537371.4	4604053.83	1 mile west of Montezuma
	Diamond Lake Pond	538009	4604190	1 mile west of Montezuma
	Miller	523211	4620090	On the southeast edge of Grinnell
Ringgold	Fife's Grove Park Pond	395138.61	4510343.9	1 mile north of Mount Ayr

County	Lake Name	Easting	Northing	Location
	Fogle Lake S.W.A.	386067.75	4519129.71	½ mile west of Diagonal
	Kokesh R.A. Pond	387027.06	4516600.61	
	Loch Ayr	395377.92	4511185.33	2 miles north of Mount Ayr
	Mount Ayr Game Area Ponds	388320.85	4504889.89	5 miles southwest of Mount Ayr
	Mount Ayr Old Reservoir	396421.06	4509142.84	½ mile north of Mount Ayr
	Poe Hollow Park Pond	399172.78	4507465.25	
	Ringgold CCB Ponds	395164	4510341	1 mile north of Mount Ayr
	Ringgold Management Area Ponds	404084.61	4494965.08	11 miles southeast of Mount Ayr
Sac	Almer Noyd W.A. Pit	343857.65	4683121.44	
	Arrowhead Lake	330911.52	4684793.63	South side of Lake View
	Black Hawk Lake	333592.47	4684763.6	East edge of Lake View
	Black Hawk Pits	330522	4682062	1½ miles south of Lake View
	Eden Prairie R.A. Pits	319758.78	4707958.74	
	Jana R.A. Pit	338824.24	4687134.39	
	L Pond	330582	4681897	
	Reiff Park Pond	323169.89	4700594.24	
Scott	Bluegrass Lake	692799.99	4599833.86	.25 miles west of Davenport (CCB)
	Buena Vista Public Use Area Ponds	688198.91	4622022.22	
	Cody Lake	705361.42	4620767.89	
	Cordova Slough	722599	4620589	
	Crow Creek W.A. Lake	703587.12	4609911.64	East edge of Mount Joy
	Davenport Harbor	698411	4596521	
	Enchanted Island	695840	4593464	
	Grant Slough	722010	4620391	
	Lake of the Hills	693798.96	4599251.97	.25 miles west of Davenport (CCB)
	Lambach Lake	693953.02	4599816.3	.25 miles west of Davenport
	Le Claire Canal	717084	4606489	
	Lost Grove Lake	713121	4616355	6 miles east of Eldridge
	Lost Grove Lake Pond			
	Pride Lake	705741.49	4619857.29	
	Railroad Lake	693213.11	4599729.1	.25 miles west of Davenport (CCB)
	Steamboat Slough	722736	4620149	
	Wapsi River Center Pond	683785.63	4626415.39	
Shelby	Elk Horn Creek Pond	325720.04	4604192.81	
	Manteno Park Pond	295232.85	4636522.07	8 miles northwest of Defiance
	Nishna Bend R.A. Ponds	305993.99	4604617.39	4 miles south of Harlan
	Pioneer Park Pond	306202	4613751	Within Harlan city limits
	Prairie Rose Lake	315022.56	4608076.17	8 miles southeast of Harlan
	Schimeroski Pond	299608.55	4627446.47	East edge of Earling
	Speery Pond	305460	4612920	Within Harlan city limits
Sioux	Alton Roadside Park Pond	254874.7	4764719.04	.5 miles north of Alton
	Big Sioux Recreation Area	214559	4765664	

County	Lake Name	Easting	Northing	Location
	Fairview Area Impoundment	217068.02	4792010.78	5 miles south, 3 miles west of Inwood
	Nassau W.A. Pond	252253.29	4758384.74	
	Oak Grove Pond	216911.5	4773041.27	Oak Grove County Park
	Otter Creek R.A. Pond	256088.72	4793184.47	4.5 miles north of Boyden on L14
	Rock Valley Pit	230911.25	4789780.59	In city park in Rock Valley
	Sandy Hollow Park Lake	246404.47	4772715.56	
	Sioux Center Pit	240949.87	4769579.74	
	Vander Weerd Pit	259830	4767780	
	Winterfield Pond (a.k.a. Van Zee Pit)	232630.55	4789617.55	North edge of Rock Valley
Story	Ada Hayden Heritage Park Lake	448174.92	4657208.55	North side of Ames, west of Grand Avenue/Highway 69
	Cambridge Pond	454936.39	4642902.35	
	Dakin Lake	475677.46	4668780.3	2 miles northeast of Zearing
	Hickory Grove Lake	470564.02	4648264.23	3 miles southwest of Colo
	Lake Laverne	446406.96	4652629.02	
	McFarland Pond	452861.05	4660393.21	4 miles northeast of Ames
	Moore Memorial Park Pond	446172.06	4654939.44	
	Petersons Pit (west)	450738.3	4659450.24	4 miles northeast of Ames
	Robison Wildlife Acres Pond	463583.65	4641878.25	
Tama	Cherry Lake	534572	4645482	On the southwest edge of Tama
	Columbia W.A. Pond	538064.71	4639700.32	4 miles southeast of Tama
	Otter Creek Lake	539761.59	4654810.53	6 miles northeast of Toledo
	Otter Creek Pond	540216	4654983	Just east of Otter Creek Lake, within county park
	Union Grove Lake	522799.61	4664064.32	4 miles south of Gladbrook
	Union Grove W.A. Pond	522365.05	4663357.32	4 miles south of Gladbrook, on southwest corner of Union Grove State Park
Taylor	Bedford Impoundment	355314	4504855	
	East Lake (Lenox)	369538.35	4528640.04	½ mile north of Lenox
	Lake of Three Fires	357231.61	4508111.37	3 miles northeast of Bedford
	Sands Timber Lake (Blockton Reservoir)	373269.1	4498496.49	1 mile northwest of Blockton
	West Lake (Lenox)	369018.64	4528368.21	1 mile north of Lenox
	Wilson Park Lake	369940.42	4521759.13	2½ miles southeast of Lenox
	Windmill Lake	345779.77	4510308.98	3½ miles east of New Market
Union	Afton City Reservoir	398287.94	4543422.16	1 mile west of Afton
	Green Valley Lake	383661.65	4550950.63	2½ miles northwest of Creston
	Groesbeck W.A. Lake	404231.4	4550318.84	
	McKinley Lake	383582.18	4545574.05	
	Summit Lake	382469.75	4546927.06	West edge of Creston
	Talmadge Hill Lake/Marsh	407807.79	4542658.84	5 miles east of Afton
	Thayer Lake	410388.46	4541669.78	1 mile south of Thayer
	Three Mile Lake	397910.93	4547597.32	3 miles northwest of Afton
	Twelve Mile Creek Lake	394545.86	4545747.38	4 miles east of Creston

County	Lake Name	Easting	Northing	Location
Van Buren	Cantril Pond	578466.3	4499991.73	
	Indian Lake	605465.38	4498406.87	1 mile southwest of Farmington
	Lacey Keosauqua Park Lake	586944.13	4507027.86	1 mile southwest of Keosauqua
	Lake Miss (Tug Fork W)	582203.21	4506424.17	5 miles southwest of Keosauqua
	Lake Sugema	585661.49	4504193.59	3 miles southwest of Keosauqua
	Morris Memorial Park Pond	601368.13	4527099.57	
	Piper's Pond (Tug Fork E)	582409.8	4506415.2	5 miles southwest of Keosauqua
Wapello	Arrowhead Lake	555813.87	4535928.93	3 miles east of Ottumwa
	East Greater Ottumwa Central Park Pond	548123	4540330	Inside Ottumwa city limits
	Eldon Pond	567256.76	4529893.75	
	Memorial Park Pond	550420.63	4542425.32	
	North Greater Ottumwa Central Park Pond	547952	4540649	Inside Ottumwa city limits
	Ottumwa - Waterworks Dam	549101	4540659	
	Ottumwa Lagoon	548207	4539654	Southeast edge of Ottumwa
	Pioneer Ridge Nature Area Pond (Nature Center)	550055.85	4527975.72	
	Pioneer Ridge Nature Area Pond (Parking lot pond)	550334	4527929	
	Pioneer Ridge Nature Area Pond (south pond)	549872	4528018	
	South Greater Ottumwa Central Park Pond	548065	4540029	Inside Ottumwa city limits
	Unmanaged Greater Ottumwa Central Park Ponds	548330	4540159	
	West Greater Ottumwa Central Park Pond	547996	4540189	
Warren	Annett Nature Center Pond (Lester)	451693.92	4571892.04	4 miles south of Indianola
	Banner Lake (north)	454077	4588169	4½ miles north of Indianola
	Banner Lake (south)	453834.69	4587561.79	4½ miles north of Indianola
	Grant Nature Land Pond	472357.58	4585777.95	5 miles south of Swan off Fenton Street
	Hickory Hills Park Pond	448921.8	4558819.73	
	Hooper Area Pond	450695.82	4569434.84	6 miles southwest of Indianola
	Lake Ahquabi	450319.32	4571145.83	5 miles southwest of Indianola
	Otter Creek Park Pond	455547.34	4565886.93	
Washington	Clemons Creek Area Pond	605490	4573460	2 miles west of Washington, CCB
	Crawford Pond	621826.79	4577093.39	3 miles north of Ainsworth
	Darling Campground pond	592365	4560165	Lake Darling State Park
	Darling Youth Camp pond	592865	4561394	
	Foster Pond	622590	4557960	
	Foster Woods Pond	596014.92	4589260.98	1.5 miles southwest of Wellman
	Iowa Township Pond	618490.31	4593583.71	.5 miles north of Riverside
	Lake Darling	592526.11	4561019.3	4 miles west of Brighton
	Lake Darling Watershed Pond 1	591959	4561972	

County	Lake Name	Easting	Northing	Location
	Lake Darling Watershed Pond 10	594554	4560251	
	Lake Darling Watershed Pond 11	594322	4560139	
	Lake Darling Watershed Pond 12	593874	4559921	
	Lake Darling Watershed Pond 13	593969	4559630	
	Lake Darling Watershed Pond 14	593653	4559630	
	Lake Darling Watershed Pond 15	593521	4559890	
	Lake Darling Watershed Pond 16	593109	4560079	
	Lake Darling Watershed Pond 17	592332	4560184	
	Lake Darling Watershed Pond 18	591972	4559932	
	Lake Darling Watershed Pond 19	591707	4559840	
	Lake Darling Watershed Pond 2	592051	4561895	
	Lake Darling Watershed Pond 20	591264	4559919	
	Lake Darling Watershed Pond 21	591168	4559920	
	Lake Darling Watershed Pond 22	590959	4559865	
	Lake Darling Watershed Pond 23	592146	4560997	
	Lake Darling Watershed Pond 24	591935	4561227	
	Lake Darling Watershed Pond 25	591700	4561404	
	Lake Darling Watershed Pond 3	592168	4561808	
	Lake Darling Watershed Pond 4	592250	4561693	
	Lake Darling Watershed Pond 5	592629	4561526	
	Lake Darling Watershed Pond 6	592821	4561744	
	Lake Darling Watershed Pond 7	592936	4560961	
	Lake Darling Watershed Pond 8	593121	4560812	
	Lake Darling Watershed Pond 9	594664	4560228	
	Marr Park Lake	619220	4571485	1 mile west of Ainsworth
	Marr Park Pond	619159.71	4571622.68	1 mile west of Ainsworth
	Schmitter Pond (north)	594190	4563450	

County	Lake Name	Easting	Northing	Location
	Schmitter Pond (south)	594155	4563164	
	Sokum Ridge Pond	612791.94	4563691.64	5 miles south of Washington
	Willow Pond	607059	4535425	
Wayne	Bob White Lake	466282.9	4507270.67	1 mile west of Allerton
	Corydon Reservoir	471714.34	4511517.65	West edge of Corydon
	Humeston Reservoir	457368.6	4525586.56	1 mile north of Humeston
	Lineville Reservoir	456747.3	4494458.64	North edge of Lineville
	Seymour Reservoir	489648.91	4502091.94	.5 miles south of Seymour
Webster	Armstrong Park Pond	402127.19	4707563.34	
	Badger Lake	402117.43	4715601.85	4½ miles north of Fort Dodge
	Bob Hay Memorial Conservation Area Pond	399087.96	4704626.41	
	Brushy Creek Lake	419317.11	4693493.89	5 miles east of Lehigh
	Ft. Dodge - Lower Dam	402435	4705264	
	Ft. Dodge - Upper Dam	401405	4707790	
	Lake Ole	411729.41	4678897.29	
	Moorland Pond	394584.84	4700601.82	
Winnebago	Ambroson Pit (east)	448224	4796718	3½ miles north of Forest City
	Ambroson Pit (middle)	448083.53	4796806.07	3½ miles north of Forest City
	Ambroson Pit (north)	448219	4797019	3½ miles north of Forest City
	Ambroson Pit (west)	447981	4796879	3½ miles north of Forest City
	Dahle Park Pond	453467.21	4812755.4	
	Florence Park Pond	431055.17	4803054.02	
	Hadacek R.A. Pond	446604.45	4794340.68	
	Lake Catherine	438336.32	4789827.68	6 miles west of Forest City
	Lande River Conservation W.A. Pond	452220.22	4810136.14	
	Rice Lake	458817.54	4804514.54	1 mile south, 1 mile east of Lake Mills
Winneshiek	Lake Meyer	588587.31	4780856.03	2.5 miles southwest of Calmar
	Lower Dam Impoundment	610007.88	4799419.9	
	Silver Springs Pond	599452.68	4776706.39	
	Upper Dam Impoundment	607370.28	4797024.26	
Woodbury	Bacon Creek Lake	225556.49	4710043.68	East edge of Sioux City
	Browns Lake	226224.76	4689445.5	2 miles west of Salix
	Little Sioux Park Lake	269611.94	4703249.66	2 miles south of Correctionville
	Midway Park Lake	251408.28	4714219.6	3 miles northeast of Moville
	Snyder Bend Lake	225516.18	4684455.41	1½ miles west of Salix
	Southwood Conservation Area Pond (east)	256098.42	4678037.87	½ mile west, ½ mile south of Smithland
	Southwood Conservation Area Pond (west)	256014	4677987	½ mile west, ½ mile south of Smithland
	Stone State Park Pond	214847.43	4716891.21	
Worth	Kuennen's Pit W.A. (north)	483241	4806793	2 miles south, ½ mile east of Northwood
	Kuennen's Pit W.A. (south)	483262.09	4806542.03	2 miles south, ½ mile east of Northwood

County	Lake Name	Easting	Northing	Location
	Mill Pond	465620.81	4790170.28	
	Silver Lake (Worth)	466247.61	4814365.2	10 miles west, 3½ miles north of Northwood
	Worth County Lake	485623.1	4801876.18	2 miles northeast of Kensett
Wright	Fishpond Park	426518.28	4724992.42	
	Lake Cornelia	443606.06	4737316.08	3½ miles north, 2 miles east of Clarion
	Morse Lake	443361.94	4743180.96	3½ miles west of Belmond

ITEM 80. Amend **567—Chapter 65**, **Table 4a**, as follows:

TABLE 4a

Phosphorus Removal for Iowa Crops

Source: PM 1688, A General Guide for Crop Nutrient and Limestone Recommendations in Iowa, revised October 2013

CROP	UNITS	P_2O_5 (pounds/unit)
Corn	bu.	~~0.375~~ 0.32
Corn silage	ton (65% H_2O)	3.5
Soybeans	bu.	~~0.8~~ 0.72
Alfalfa, alfalfa grass	ton	~~12.5~~ 13
Oat ~~and straw~~	bu.	~~0.4~~ 0.294
Wheat	bu.	~~0.6~~ 0.55
Smooth brome	ton	~~9~~ 7.9
Orchard grass	ton	~~14~~ 12
Tall fescue	ton	~~12~~ 11
Switch grass	ton	~~12~~ 11
Sorghum-Sudan	ton	~~12~~ 11
~~Vetch~~	~~ton~~	~~12~~
Red clover-grass	ton	~~12~~ 11
Perennial rye grass	ton	~~12~~ 11
Timothy	ton	~~9~~ 7.9
Wheat straw	ton	~~4~~ 3.7
Oat straw	ton	~~5~~ 6.4

ITEM 81. Amend **567—Chapter 65**, **Table 6**, **table of distances to water wells**, as follows:

TABLE 6

Required Separation Distances for Confinement Feeding Operations Constructed on or after March 1, 2003—Swine, Sheep, Horses, Poultry, and Beef and Dairy Cattle

DISTANCES TO WATER WELLS				
Type of Structure	Public Well		Private Well	
	Shallow	Deep	Shallow	Deep
~~Aerobic structure, anaerobic lagoon, earthen manure storage basin~~ Unformed manure storage structure and egg washwater storage structure	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure and confinement building	200 feet	100 feet	200 feet	100 feet

ITEM 82. Amend **567—Chapter 65**, **Table 6a**, **table of distances to water wells**, as follows:

TABLE 6a

Required Separation Distances for Confinement Feeding Operations Constructed on or after January 1, 1999, but prior to March 1, 2003—Swine, Sheep, Horses and Poultry

DISTANCES TO WATER WELLS				
Type of Structure	Public Well		Private Well	
	Shallow	Deep	Shallow	Deep
~~Aerobic structure, anaerobic lagoon, earthen manure storage basin~~ Unformed manure storage structure and egg washwater storage structure	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure and confinement building	200 feet	100 feet	200 feet	100 feet

ITEM 83. Amend **567—Chapter 65**, **Table 6b**, **table of distances to water wells**, as follows:

TABLE 6b

Required Separation Distances for Confinement Feeding Operations Constructed on or after January 1, 1999, but prior to March 1, 2003—Beef and Dairy Cattle

DISTANCES TO WATER WELLS				
Type of Structure	Public Well		Private Well	
	Shallow	Deep	Shallow	Deep
~~Aerobic structure, anaerobic lagoon, earthen manure storage basin~~ Unformed manure storage structure and egg washwater storage structure	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure and confinement building	200 feet	100 feet	200 feet	100 feet

ITEM 84. Amend **567—Chapter 65**, **Table 6c**, **table of distances to water wells**, as follows:

TABLE 6c

Required Separation Distances for Confinement Feeding Operations Constructed prior to January 1, 1999—Swine, Sheep, Horses and Poultry

DISTANCES TO WATER WELLS				
Type of Structure	Public Well		Private Well	
	Shallow	Deep	Shallow	Deep
~~Aerobic structure, anaerobic lagoon, earthen manure storage basin~~ Unformed manure storage structure and egg washwater storage structure	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure and confinement building	200 feet	100 feet	200 feet	100 feet

ITEM 85. Amend **567—Chapter 65**, **Table 6d**, **table of distances to water wells**, as follows:

TABLE 6d

Required Separation Distances for Confinement Feeding Operations Constructed

prior to January 1, 1999—Beef and Dairy Cattle

DISTANCES TO WATER WELLS				
Type of Structure	Public Well		Private Well	
	Shallow	Deep	Shallow	Deep
~~Aerobic structure, anaerobic lagoon, earthen manure storage basin~~ Unformed manure storage structure and egg washwater storage structure	1,000 feet	400 feet	400 feet	400 feet
Formed manure storage structure and confinement building	200 feet	100 feet	200 feet	100 feet

ITEM 86. Amend **567—Chapter 65**, **Table 7**, **table of distances to water wells**, as follows:

TABLE 7

Required Separation Distances for Open Feedlot Operations, Stockpiles from Open Feedlot Operations, Stockpiles from Dry Manure Confinement Operations and Stockpiles from Dry Bedded Confinement Operations

DISTANCES TO WELLS FOR OPEN FEEDLOT STRUCTURES				
Type of Structure	Public Well		Private Well	
	Shallow	Deep	Shallow	Deep
~~Settled~~ Unformed settled open feedlot effluent basin	1,000 feet	400 feet	400 feet	400 feet
Open feedlot, open feedlot solids settling facility, formed settled open feedlot effluent basin, AT system and feed storage runoff basin	200 feet	100 feet	200 feet	100 feet
DISTANCES TO RESIDENCES AND SPECIAL AREAS FOR MANURE STOCKPILES[1, 2]				
Residence, commercial enterprise, bona fide religious institution, educational institution, or public use area (does not apply to stockpiles from SAFO sized confinements and open feedlots)				1,250 feet
Designated area other than a high-quality water resource				400 feet[3]
High-quality water resource				800 feet
Terrace tile inlet or surface tile inlet – unless methods, structures or practices are implemented to contain the stockpiled manure				200 feet

[1]Manure stockpiles are prohibited on grassed waterways or where water pools on the surface. Manure stockpiles are also prohibited on land with slopes greater than 3% unless methods, structures or practices are implemented to contain the stockpiled manure to prevent or diminish precipitation-induced runoff from the stockpiled manure.
[2]See subparagraph 65.2(3)*"d"*(4) and paragraph 65.11(8)*"c"* for exemptions pertaining to dry manure stockpiles.
[3]For Stockpiles from dry manure confinement operations, the separation distance is 800 feet to agricultural drainage wells and known sinkholes.

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